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Prostatic Disease in the Dog—Clinical Manifestations and Treatment

by

ALEX. H. HOGG, M.R.C.V.S.

BLACKBURN

Introduction

The abnormalities and diseased conditions affecting the prostate gland in the dog have been curiously neglected in the past by the various authors on canine disease. This is easily confirmed by perusal of any of the standard works. The number of articles on the subject which have appeared in the periodicals are also few in number and on the whole prostatic disease is more alluded to than treated of as a main subject. There are, however, exceptions and the few I have been able to find are given amongst the references. This is in direct contra-distinction to the medical literature where entire books have been written with the prostate gland as subject and where any general treatise on urogenital disease or surgery devotes a large number of its pages to the abnormalities which occur and the surgical methods adopted when the prostate is diseased. There are several explanations possible which might account for this difference. The incidence of prostatic disease may be very much less in the dog than it is in the human subject; it may be more easily diagnosed which is doubtful, etc., etc. Certainly a greater amount is known concerning it which has naturally found its way into print. Prostatic disease in dogs is probably commoner than the literature would lead one to assume. A large part of the medical literature on the subject is concerned with the surgery of the gland, whilst the difficulties which face us here from the veterinary viewpoint make this gap at least self-obvious. It is very curious, therefore, to find in veterinary literature that the articles which treat the subject as a whole, *i.e.*, disease of the gland as main subject, should be articles dealing mainly with the surgical side to the neglect of the entire clinical aspect of the syndrome. Surgical treatment (other than surgery of the gland direct) has all along favoured the veterinarian inasmuch as castration in the dog is always possible, whereas in the human, orchidectomy has not been favoured for aesthetic reasons (this is apart from any question of the value of the operation and whether the opponents of castration in the human being have much basis for their fears that it may have degrading psychological side-effects). Again, a large part of human surgery is directed to removing sufficient tissue in a contracted gland to alleviate symptoms of stenosis and its associated syndrome, whereas in the dog a case of chronic contracted prostate is a case for medical treatment only, since direct surgical approach is out of the question for more than one reason.

With very little so far recorded in veterinary literature one is tempted to draw very largely from medical experience and literature. With some qualms I have done so, bearing in mind, however, the fact that since a certain lesion occurs in the human subject it by no means follows that it will have its counterpart in canine disease. This article loses a great deal of its value through lacking histological support (especially is this true in regard to differential diagnosis). The clinical picture of this very variable syndrome is, however, worth recording on its own account. The complaint is common enough to warrant it being said that anyone neglecting rectal palpation of this gland in older dogs, especially those which at first sight display rather obscure symptoms, runs a grave risk of making a faulty diagnosis.

General Remarks—Aetiology, etc.

The prostate gland suffers from a variety of conditions, the aetiology being clear enough in most of them. There are a few, however, the exact aetiology of which is still in doubt. Most of the literature on aetiology is medical, the veterinary contributions being mainly concerned with prostatic "abscess"* and the "enlarged" prostate,[1 2 3] etc. In the veterinary textbooks which I have consulted the fullest account of prostatic disease in the dog is contained in Muller & Glass. Here, some attempt has been made to differentiate the various conditions encountered. There is also an attempt at differentiation in Wooldridge's "Encyclopoedia of Veterinary Medicine and Surgery." KIRK'S "Index of Diagnosis" is naturally more concerned with symptoms and the differential diagnosis from other conditions simulating prostatic disease. In the main the conditions recognized have been prostatic "abscess" and benign hypertrophy of old dogs. Mention is also made of the possibility of malignant disease, prostatic "cyst," and tuberculosis of the gland. I have been unable to find any reference whatsoever to chronic contraction of the gland. The serious gap in the series over which this article is written is prostatic "abscess." I have yet to see a proved case of this condition. That acute inflammation of the gland occurs I am in no doubt, but I would query whether it occurs as commonly as the veterinary literature would lead one to assume. The condition is possibly confused with prostatic cyst and prostatic adenoma.

Prostatic disease falls roughly into two broad divisions: (1) the enlarged gland, and (2) the small contracted gland, which from the veterinary viewpoint is about as far as one can sometimes reach towards exact diagnosis. There are several methods open to the medical diagnostician by means of which he can at the outset be even more precise and the diagnosis will then fall into a subdivision of the above. Thus the enlarged gland includes such a diversity of conditions as malignant hypertrophy (*e.g.*, malignant adeno- and schirrous carcinoma), benign hypertrophy (*e.g.*, benign adenoma and benign hypertrophy of unknown origin), tuberculous prostate, prostatitis of bacterial origin (prostatic abscess), etc.[4 5] The small contracted gland can be subdivided into contracture due to bacterial origin, contracture due to endocrine failure (suspected)[4] and possibly schirrous carcinoma, etc. Differential diagnosis is accomplished by a variety of methods all of which, while applicable in the dog, are hardly methods which could be adopted in routine practice. There are a few exceptions such as urinalysis. They include biochemical examination of the blood for raised acid phosphatase level to incriminate malignant growth,[6] X-ray examination for prostatic calculi, excretion urinography for stenosis at the prostatic urethra, direct X-ray to display the altered position of bladder and prostate,[2a] X-ray for tuberculous calcification, routine urinalysis with especial study of the urinary sediment for abnormal prostatic cells, bacteria, etc.[7]

The clinical manifestations of prostatic disease in the dog follow a fairly clear-cut definite syndrome although the symptoms shown may vary enormously and at first sight may bear no apparent connection directly referable to the gland. There is always, however, an underlying disease process which although confirmable whilst the dog is still alive is most obvious at *post-mortem* examination. This syndrome takes the form of a low-grade chronic cystitis of the retention type. This may be associated with some degree or other of chronic nephritis but the kidney lesion does not occur with anything like the same degree of constancy. This syndrome builds up upon itself, *i.e.*, it takes the form of a vicious circle and it underlies the superimposed obvious outward symptoms of prostatic disease. The clinical manifestations of a low-grade chronic cystitis are practically nil and unless kidney lesions are also present the existence of this syndrome must in the majority of cases be an assumption rather than an obvious clinical fact. It is, however, easily confirmable at *post-mortem* examination, and where treatment is adopted to alleviate the condition, temporary improvement will generally follow. Each case may show several symptoms known to be due to prostatic disease or only a single symptom. The "classical" symptoms in the dog come under the heading of "interference with defaecation and urination associated with a varying degree of pain." Pain on rectal palpation is also taken to be a major diagnostic aid in prostatic disease. In this series of cases pain on palpation has been conspicuous by its absence. There is probably some degree of breed incidence in prostatic disease and whilst it is by no means clear-cut and definite it is generally found to be a disease of the medium-sized dog typified in the terrier breeds, *e.g.*, Welsh, Irish, Wire-hair, Sealyham, Scottie, etc. The disease has never been seen in the toy breeds such as Pekinese and Pomeranian. It seldom occurs in the larger breeds, *e.g.*, Danes, Bull-mastiffs, etc. I have seen only one case in Greyhounds.

* The author regrets that he has mislaid his one definite reference on prostatic abscess proper, where bacterial origin had been proved by the finding of the causal organism.

The Enlarged Prostate—Symptomatology, etc.

The age incidence is eight years. The disease must be rare below this age but it is fairly common up to twelve years, becoming again distinctly rare above this age (cf. Knight & Douglas,[8] "Incidence of Cancer in Dogs," gives the average age incidence as 8·8 and 8·9 for two yearly series). The disease process is relatively insidious in onset with the exception possibly of an extremely malignant cancer or an acute prostatitis of bacterial origin. The dog is therefore generally in poorish condition when presented unless the case is seen fairly early. The history reveals little other than a gradual slight loss of weight, condition and energy. There may or may not be a "major" symptom known to the owner. There is no one symptom any commoner than another but those which are apparent to the owner are: a unilateral or bilateral hind leg weakness (paralytic in type), lameness with limping on a hind leg (unilateral form is given as lameness by the owner), unexplained bouts of yelping as if suddenly griped or pained, oedema of the prepuce, staining of the coat in the preputial region and/or the muzzle (only noticed in white-haired dogs). These might be classed as "major" symptoms. Over and above these, many facts of importance can be obtained on questioning. The commonest here is an upset in normal micturition including nocturnal diuresis; increased frequency of micturition, discomfort and straining during the act; taking an abnormally long time to pass urine; abnormal position when micturating, *e.g.*, leg not being held up properly or micturating like the bitch; strongish colour and smell of the urine, blood being often observed either colouring the urine as a whole, or occurring in drops during the latter part of the act. Facts of importance can also be often elicited as to the state of the bowels, and the act of defaecation. The motions are generally little changed in consistency but an enlarged gland causing pain and difficulty in defaecation produces constipation through an unwillingness to defaecate. More advanced cases with systemic upset often show diarrhoea. Certain diagnostic signs associated with prostatic enlargement rather less commonly seen may or may not be shown by the individual case either in association with one of the aforementioned major symptoms or appearing as the only external evidence of a diseased gland. These include some degree of uni- or bilateral muscular atrophy in the hind legs. It is only seen in cases where the hind leg symptoms already mentioned are showing. The slight paralytic action may not be evident to the owner, nor indeed may the atrophy; and the latter may be diagnosed before the clinician notices the faulty action. Where this atrophy is bilateral it appears more properly to be part of a general muscular wastage most obvious in the hindquarters. The fallacy here only becomes obvious to the clinician after having seen a case of unilateral atrophy due to the same cause. While a general disproportion between the fore and hind parts of the body is common to any cachetic condition, the muscular wastage which occurs in the hind parts is a true atrophic change in the muscular tissue of the hind limb or limbs and is independent of the generalized loss in weight which may or may not be present. The action of the hind limb in prostatic enlargement may be highly significant to the point of being diagnostic of the condition. The action is perhaps best described by stating its points of resemblance and where it differs from other significant hind leg actions. The legs are not so much stiff as awkwardly moved but the stilt-like action with arching of the back of acute nephritis is missing. The tucked-up empty abdomen of acute bowel inflammation is missing but the stance is somewhat similar although there is not the same reluctance to move or sit down. The dog will walk a short distance and then "give" slightly on the hind legs as in a commencing distemper paraplegia but the swaying action of the latter is missing. Unilateral hind leg weakness (lameness to the owner) superficially resembles chronic muscular rheumatism or hip disease of long standing (*e.g.*, Von Perthe hip). There is no obvious explanation for these hind leg symptoms. Somewhat similar symptoms occurring in the human are ascribed to secondary bone metastases from a malignant gland.[9] The only case of prostatic disease with secondary metastases from a malignant gland displayed no hind leg symptoms but there were no macroscopic bone lesions observable at *post-mortem* examination. A possible explanation is that of pressure on vascular or nervous supply to the affected limb or limbs. Against this there is the fact that the cases seen showing hind leg symptoms very markedly have not been those with the greatest degree of hypertrophy at *post-mortem* examination. Allowance must be made, however, for the fact that as a general rule the greater the degree of hypertrophy, the nearer does the prostate gland approach to becoming an abdominal rather than a pelvic organ, thereby lessening its liability to cause pressure symptoms in the pelvis. The only other significant action noted was seen in a dog which lay with hindquarters raised (cf. "abdominal pain," H. Kirk's "Index of Diagnosis"). Oedema of the prepuce is fairly common, well-marked and distinct and, in my experience, is uncommon except in prostatic disease. In white-haired dogs this may be associated with staining of the coat on and in front of the prepuce and on the muzzle due to licking. This is particularly noticeable if the urine contains blood. The disease is confirmed by rectal and abdominal palpation of the gland. This can be easily done with a grossly enlarged gland, but when only a slight degree of hypertrophy is present the gland cannot be so well grasped as its increase in size can be appreciated through the abdominal wall as it is pushed down from above with the finger in the rectum. Hypertrophy is sometimes appreciated immediately by the index finger in the rectum, depending on whether the normal bi-lobed contour of the gland has been destroyed by the disease or not. In a large number of cases, however, the gland is hardly palpable at all per rectum until it is pressed up from below through the abdominal wall. *A "missing" prostate on rectal examination is an excellent diagnostic sign if a somewhat ominous one.* Pain on palpation is uncommon and in the series of cases over which this article is written there has been only one in which any pain whatsoever was evinced on palpation; though this was appreciable it did not show immediately but came on after thorough palpation and the dog had been lifted on to the floor for several minutes. The question of pain is directly concerned in differential diagnosis.

Differential Diagnosis

It is not the intention here to differentiate the various conditions which might be confused with prostatic hypertrophy. Indeed in that respect it is not so much a case of confusing other conditions with hypertrophy, as failure to implicate a diseased prostate in affections of this region. Thus it is not difficult to find in the literature dissertations on anal pruritus, anal gland disease, masturbation, etc., which in large part are cases of failure to insert an index finger into the rectum. By differential diagnosis here is meant an attempt at differentiating between the various conditions causing enlarged gland. It must be understood that what follows is at present unsupported by histological evidence. It is, therefore, drawn from naked-eye inspection of *post-mortem* specimens combined with the almost certain knowledge that the majority of these lesions will have their counterparts in human prostatic disease, the histology of which is reasonably complete.

Tuberculosis of the gland and prostatic calculi can be eliminated without consideration unless one wishes to be pedantic. The former must be a rarity in the dog although undoubtedly it can occur. One case of the latter has been seen but the gland was, if anything, contracted. They are evidently not uncommon in the human and the affected gland may be of any size (hypertrophy, normal, contracted). The same holds true for tuberculous prostate and prostatic cyst. The question of size may not seem of great importance here but when one is actually faced with a clinical case of prostatic disease, then size, consistency, etc., are main guides in differential diagnosis. When the gland is hypertrophied, therefore, the differentiation is between prostatic abscess, prostatic cyst, neoplastic hypertrophy (malignant and benign) and hypertrophy of unknown aetiology. This latter is believed to be a distinct entity and not as might be supposed anything not otherwise included in the list. There has recently been put forward the suggestion that this latter condition is allied to a similar lesion where the gland is alternately contracted with the theory propounded that a hormonal imbalance is the primary cause.[4] The question also brings in the more general aspects of the case, *e.g.*, systemic effects, history, etc. In gross hypertrophy the entire aspect suggests a much more serious cause at work than is the case in the other types and the idea that the disease process has been of short duration is prominent. Systemic effects are much more serious inasmuch as they have become apparent much more quickly. This is largely supported by the history and clinical signs. In actuality the case with a small hypertrophy may be in a much more serious condition, yet the owner, merely remarking on a gradual loss of weight, condition, etc., presents an animal superficially displaying little other than the symptoms given. Neoplastic hypertrophy is that which causes the greatest degree of enlargement ascertainable on palpation. The normal contour of the gland is lost and the surface is often knobbly. Generally both lobes are more or less enlarged to a similar degree but the lobar character of the organ is very difficult to make out in a large number of cases. Lastly, the gland is abdominal in position. A common size for the neoplastic gland is that of a tangerine orange but on occasion they may easily exceed this (one, as large as a Jaffa orange, has been taken from a Scottie). There is a benign hypertrophy in the dog which is non-neoplastic in origin. The enlargement may be slight, the gland being little larger than normal, or it may be grossly enlarged (the size of two hen's eggs). In this condition the normal contour of the gland is retained and the swelling is equilateral. At *post-mortem* examination the gland is soft and the surface bulges like testicular tissue. Benign neo-

plasm could possibly produce such an appearance but is much more likely to be unilobular, or at least with the tumour area well defined, *post-mortem*. Practically every case of prostatic disease must be complicated to some extent by a degree of cystitis and in respect of differential diagnosis the neoplastic growths generally seem to produce the most serious bladder condition. In small hypertrophies and also in benign hypertrophy of unknown aetiology the state of the bladder resembles more that seen in chronic contracted prostate, *viz.*, a low-grade chronic retention cystitis. The reason for this can be summed up in the word "stenosis" or more fully in the degree of blockage which is offered to the passage of urine by contracture of the prostatic urethra. I might also mention at this point that there has been no connection between prostatic disease and cystic calculi in the cases in this series. The general conclusions to be drawn from the above are that the greater the degree of enlargement the greater will be the systemic upset (on superficial examination) and the probability of neoplastic growth. Pain on palpation is of no help in differentiating between neoplastic and non-neoplastic hypertrophy, suggesting rather (according to the literature) prostatic abscess. Prostatic abscess must be uncommon and I have personally not yet encountered a case. There is a difficulty here in regard to aetiology and by prostatic abscess I take the condition described to be an acute inflammation of the gland due to bacterial infection resulting in pain, swelling and subsequent abscess formation with final rupture or regression. Such a case has been described by the author, mentioned in the footnote given earlier, reference to whose case report unfortunately has been mislaid. He incriminated a streptococcus as the causal organism. In the neoplastic growths it is common to find a breakdown in the tumour formation with pockets of fluid formed indiscriminately throughout the gland, resembling mammary gland adenomata. Just as in the latter this fluid is in all probability secretion from the tumour cells, so in prostatic tumours this fluid is probably secreted and not, as might be supposed, pus formation. This explanation might account for a fair number of so-called prostatic abscesses. I have seen several cases of what I believe are chronic bacterial infection of the gland following distemper infection. These result, however, in contracture of the gland and resemble in this way gonorrhoea infection in the human. Presumably extreme pain would be encountered in an acute case of prostatic abscess which would disappear with rupture or regression of the abscess. It is also rather difficult to imagine how this might occur without at the same time producing a gross bladder and urethral condition. Exact differential diagnosis in the dog on purely clinical grounds is thus seen to be difficult and unless the question of expense could be solved in individual cases and recourse made to some of the procedures adopted in human medicine, the diagnosis will of necessity remain tentative until treatment has been undertaken and response or otherwise noted.

Chronic Contracted Gland

General Symptomatology Including Differential Diagnosis

This condition is in a different category altogether from the hypertrophied type. The aetiology, diagnosis and prognosis are uncomplicated by the variety of causes which give rise to hypertrophy. If we eliminate at the outset schirrous carcinoma which undoubtedly is a common cause of contracture in the human and is a possible cause in the dog, but of which I have yet to see a case, we are left with two conditions the aetiology of which is still in debate as far as human work is concerned. That two similar conditions occur in the dog is my own opinion. In the human the literature is rather confusing and one is left in doubt as to whether the two main schools of thought are speaking of the same condition or, on the other hand, whether there exist two separate conditions. The more modern work, however, would seem to support the belief that two separate independent causes may produce the same type of lesion (superficially). These two causes are, on the one hand, a chronic bacterial infection of the gland, *e.g.*, gonococcus, and on the other, an endocrine disorder, *viz.*, androgen failure. I believe that both these causes can lead to contracture of the gland in the dog with the substitution of distemper infection (secondary invaders) for the gonococcus. I am also of the opinion that an endrocine breakdown is by far the commonest of the two causes in the dog. It is therefore impossible to give an average incidence for contracture of the prostate in the same way that one can in hypertrophy, since the two causes are operative at either end of the life span, *i.e.*, the bacterial cause occurs approximately at the age of from one to two years and the endocrine cause at eight to nine years of age. The latter coincides with the breakdown in glandular metabolism which may be the commencement of the senile change as a whole or it may correspond to the climacteric changes occurring in the female, epitomized in the bitch, *e.g.*, in pyometra. The male climacteric is evidently ill-defined, in respect of age especially, but I am of the opinion that one of the two prostatic conditions or perhaps both, benign hypertrophy of unknown aetiology and chronic contracted prostate, correspond to the pyometra syndrome in the bitch.[11] This climacteric syndrome or the syndrome of chronic contracted prostate can be picked out from the variety of conditions in older dogs, ultimately leading to the end, some longer, some sooner in length of time. The syndrome probably is best seen in the terrier breeds since these make the best subjects for clinical examination, being easy to palpate rectally and abdominally. The condition is probably a slow one in developing but the dog may appear to break down completely all at once and a dog of previously active disposition becomes an old dog in a matter of weeks with little to show or account for the sudden change. The appetite begins to fail and, as the condition progresses, eventually is completely lacking. Loss in weight becomes marked. The prostatic condition is very often associated with some degree of nephritis of the chronic type. The condition is to be differentiated from chronic nephritis *per se* (walnut kidneys leading, *e.g.*, to the uraemic or rubber jaw syndromes). There is practically always a very slight degree of chronic cystitis always verifiable at *post-mortem* examination along with the kidney changes. Gleet in the corner of the eyes is well marked in the later stages. Cataract of the lens is not necessarily present. An alopecia which is absolutely intractable to external treatment is very common, the sites of preference being down the back of the hind legs and across the rumps. In this connection the cases of thyroid alopecia described originally by J. W. H. Holmes[9] and the discussion on them which followed might repay further attention since, as far as I am aware, there was no definite proof at the time that the thyroid gland was diseased. The condition is also described in Kirk's "Index of Diagnosis." Thyroid alopecia is, however, described in bitches, but as in the dog the diagnosis of thyroid insufficiency is based on response to treatment with thyroid gland extract. The mouth may be perfectly clean and the breath unobjectionable. The prepuce is often hairless and slightly pendulous. A generalized trembling of the body (seen in other senile conditions also) is common. Vomiting which is resistant to all treatment is a common final symptom. Death occurs eventually through progressive weakness. The above description is what I believe to be a straightforward case of the male menopausal syndrome in the dog where the glandular upset has been abnormally pronounced, thereby initiating the syndrome of prostatic disease (in this instance of chronic contracture but alternatively of benign hypertrophy) which in its turn has caused the death of the animal at an earlier age than might otherwise have been the case (if, *e.g.*, the menopause had been normal). The comparison with pyometra is obvious and in exactly the same way there are probably predisposing causes to the complaint in the male. Thus it is not uncommon to find that the affected dog has under-developed testicles and was by nature an effeminate type, but inclined to fatness. An undescended testicle is also sometimes seen. A similar type of syndrome can be brought about by castrating dogs of adult age.[15] Tumour of the testicles can also produce a chronic contracted gland, evidently by cutting off the supply of androgenic hormone. Such a case has been seen recently. The differential diagnosis is essentially from chronic nephritis, the manifestations of which are so well known as not to warrant repetition here except to point out a few main differences. Since the prostatic syndrome may be influenced by a degree of chronic nephritis, differentiation might appear somewhat difficult, and it probably is in the early stages, but few cases which progress eventually to chronic nephritis *per se* are recognized or indeed presented in the early stages. From naked-eye inspection there is not the same degree of chronic nephritis present in the kidneys at *post-mortem* examination in cases of contracted gland as is seen in cases of hypertrophy. Urinalysis would provide help as the disease progressed up to the stage when, *e.g.*, the uraemic syndrome became evident and the case was revealed as a true chronic nephritis. The prostate cases never progress to the same degree of emaciation as is seen in chronic nephritis. Skin disorder is also never so marked (uraemic skin), but most essentially and easily verifiable, the prostate gland is contracted in the one syndrome and normal in the other. As to the degree of nephritis encountered at *post-mortem* examination in prostatic cases, as a general rule it never approaches so-called "walnut" kidneys, but there are exceptions to this, and included in this series is a case of malignant neoplasm of the prostate coincident with generalized osteomalacia especially in the bones of the face (rubber jaw). The osteomalacia is of course connected in some way as yet unknown with the pronounced kidney lesions. In the majority of cases, however, the kidneys are only slightly smaller than normal and firmer in consistency. In many cases the kidneys are normal for a dog at that age.

I have found chronic bacterial infection of the gland to be exclusively linked with distemper (cf. gonorrhoea in the human). No reference can be found to the possibility of this occurring and, indeed, the references are so scanty in regard to distemper infection

A. H. HOGG : PROSTATIC DISEASE IN THE DOG

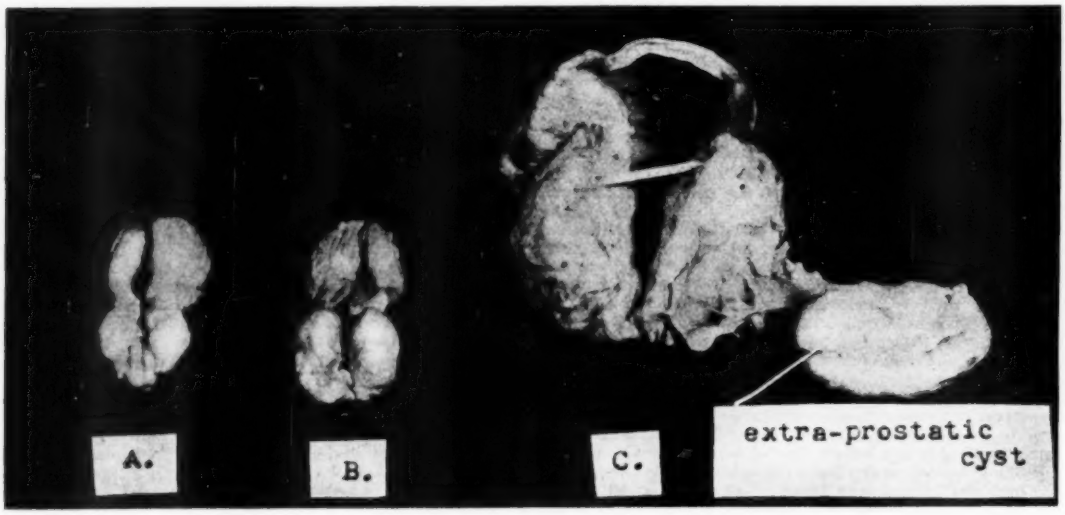

PLATE 1

Specimen A.—Chronic contracted gland the result of distemper infection. Alsatian, 18 months.
Specimen B.—Normal prostate. Terrier type, three years.
Specimen C.—Neoplastic hypertrophy with attached extra-prostatic cyst. Scottie, eight years (coincident with gross osteomalacia and cirrhotic kidneys).

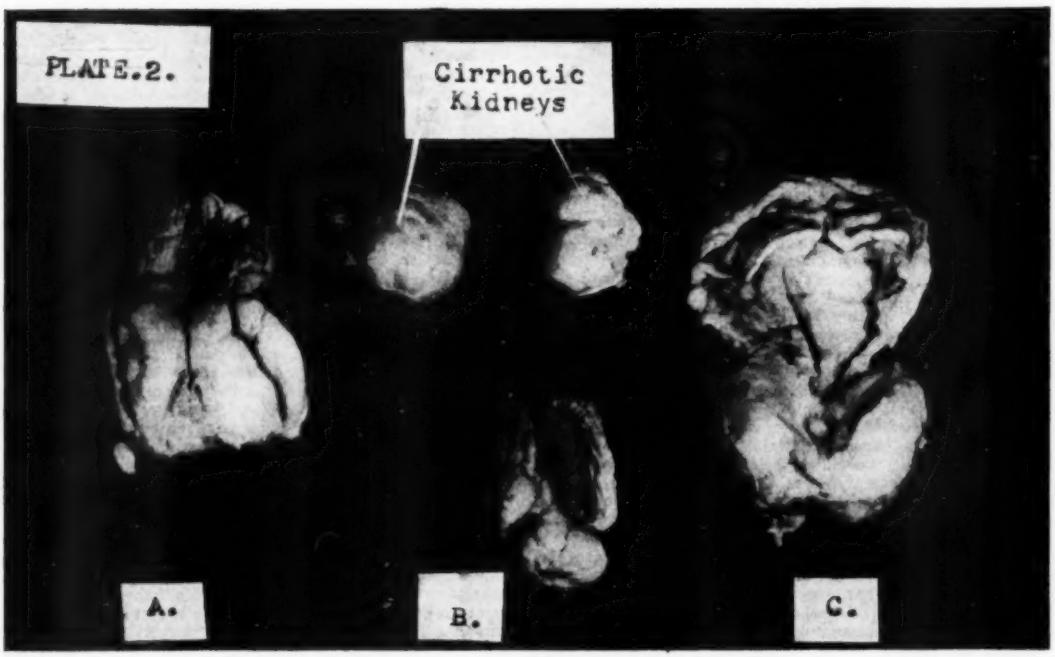

PLATE 2

Specimen A.—Benign hypertrophy of unknown aetiology. Airedale, ten years (prostatic lobes incised).
Specimen B.—Chronic contracted gland—distemper infection, coincident with pronounced chronic nephritis. Spaniel, 2½ years.
Specimen C.—Neoplastic hypertrophy with chronic bladder distension. Spaniel, nine years.

A. H. HOGG : PROSTATIC DISEASE IN THE DOG

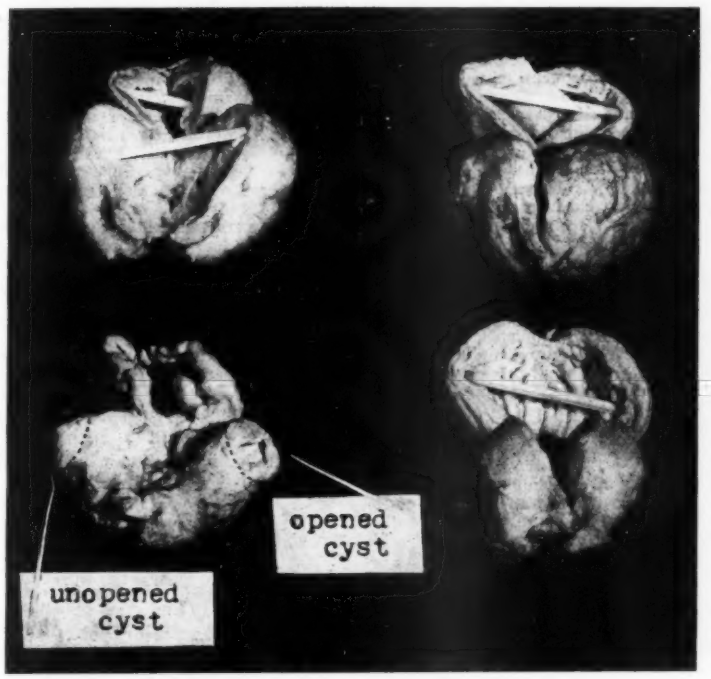

PLATE 3

Specimen A.—Neoplastic hypertrophy, probably benign, with chronic thickening of bladder wall (chronic cystitis). Scottie, ten years.
Specimen B.—Neoplastic hypertrophy, probably malignant. Scottie, ten years.
Specimen C.—Prostatic cyst formation in a hypertrophied gland (right hand cyst has been ruptured).
Specimen D.—Unequal hypertrophy of the lobes, probably benign neoplastic. Lakeland, eight years.

PLATE 4

Specimen A.—Benign hypertrophy of unknown aetiology. Age and breed unknown.
Specimen B.—Normal gland. Terrier type, three or four years.
Specimen C.—Unequal hypertrophy of the lobes, suspected malignant. Age and breed unknown.
[All the four plates are of specimens preserved in spirit and a certain amount of shrinkage has taken place. The photographs are about a third to quarter normal size.]

of the urogenital tract as to cause some surprise when one notes the frequency with which it occurs. Acute nephritis is mentioned as occurring but there is no hint given as to the possibility of permanent damage to the kidneys or any other part of the tract. It is sufficient to note here that many cases of chronic nephritis and chronic prostatitis are probably the result of distemper secondary infection. Several specimens of the prostatic lesions have been preserved from cases, the history of which is complete from the initial distemper infection to their subsequent destruction, with chronic prostatitis with or without some degree of chronic nephritis. The time taken for the lesions to develop subsequent to the original distemper infection is approximately one to two years. The prostatic tissue in these cases has been negligible at *post-mortem* examination, corresponding to the prostates of castrated dogs. The symptoms exhibited in chronic bacterial infection bear no resemblance to those already mentioned for contracted gland caused through endocrine imbalance. In the former syndrome, definite intermittent pain or discomfort is a constant feature which is quite the reverse of the endocrine imbalance syndrome where no pain or discomfort referable to the gland is ever evinced. This causes the dog suddenly to sit down or squat, perhaps at the same time attempting defaecation or micturition, but as a rule motions or urine are not passed, *i.e.*, the act is never completed. This symptom is repeated at frequent intervals during an examination in the surgery. Other variations include an abnormal preoccupation with the anal or preputial regions simulating anal pruritus and masturbation respectively. Another symptom noticed was that of suddenly turning and looking towards the hindquarters as if in pain, the animal holding this position for a few seconds then proceeding as if all were well (cf. abdominal colic in the horse). In another case the animal (greyhound) had a trick of suddenly crouching as if caught in a spasm of pain. These cases retain their bodily condition but are never at any time completely fit. There is constant casting of the coat which is dull and scurfy. The dog may never have completely recovered from an initial distemper infection, of which fact the owner is generally well aware.

Treatment (Hypertrophy and Chronic Contracted Gland)

The treatment of prostatic disease other than surgical advanced a thousand-fold with the advent of stilboestrol dipropionate. No attempt is made in this article to discuss surgical treatment of the gland direct. The exact mode of action of the drug in prostatic "cancer" is not fully known as yet but the action is supposed to be confined to the malignant types only. A similar action is to be expected from the natural oestrogenic extracts and from drugs with a similar action to stilboestrol, *e.g.*, oestradiol benzoate, dienoestrol, etc., but up to the time of writing only the original synthetic oestrogen has been used irrespective of whether the prostatic hypertrophy was suspected as malignant or not. This at first was entirely empirical since, if theory was then to be believed, the action should have been confined to malignant disease only. This, however, was not the case. The best response has been in grossly enlarged glands clinically assumed to be neoplastic. The contraction in size and relief of symptoms which are obtained when the drug has been given for only a week are often remarkable. In other cases relief of symptoms is marked but little contraction in size noted. Support for this has recently been given by R. H. Smythe.[10]. The first dosage scheme suggested in the human has been followed throughout. The oral route for medication has given complete satisfaction both for the prostatic condition and for other conditions in the dog where its use is indicated. The dose rate is twice that given parenterally and is: one 5 mgm. tablet b.i.d. for a week, one 5 mgm. tablet daily second week, one 5 mgm. tablet alternate days third week and tailing off, or retaining on a maintenance dose for an indefinite length of time as the case warrants. There is still doubt in the human as to whether a maintenance dose is required or not. With early cases treated, the dogs were kept on the drug for a longish period at maintenance level since it was impossible to say what would happen if the drug were stopped, *i.e.*, whether the gland would hypertrophy again or not. Latterly after a fortnight's course and in some cases after only a week's course, the drug has been stopped completely when the gland went down or the symptoms abated. Whilst treatment aims essentially at reducing the prostatic enlargement the systemic condition must as a rule also be attended to. In more acute cases stilboestrol has been used in combination with the sulphonamides, generally sulphathiazole, and a urinary antiseptic (hexamine and acid soda phos.). Alkalies have also been prescribed. These latter drugs aim at reducing the cystitis which is practically always present.

Treatment in chronic contracted gland, as far as the human subject is concerned, is entirely surgical, aiming at relief of stenosis. In the dog the difficulties encountered make surgery out of the question in routine practice but it is interesting to note that it has been attempted in the past by various canine surgeons[1]. As far as I can gather, however, this has been in connection with hypertrophy of the gland only. I have been unable to do very much in these cases which has in any way alleviated the condition. Treatment has been on lines already described to improve urinary function through attention to diet and fluid intake along with urinary antiseptics and sulphonamides to lessen the degree of cystitis invariably present. In the climacteric syndrome I have tried various orchitic tablets, etc., all said to possess rejuvenating effects by virtue of their glandular origin, but they were all without effect. On theoretical grounds the answer would seem to be testosterone propionate or a similar preparation but the present price of this drug makes its routine use out of the question. This drug is recommended at the moment for use in the human in cases of benign hypertrophy. It is also interesting to note that gland grafting (testicular grafts) has been attempted in the past, evidently with some success in regard to the rejuvenating effects obtained (Professor J. McCunn[9]: Discussion) but unfortunately nothing is known regarding the prostate gland in these cases, although the effect on the growth of the coat was specially mentioned. Nothing has so far been said in regard to castration but in cases of hypertrophy it is to be recommended as a last resort if stilboestrol therapy fails.[13 14 15] Whether it would have any effect in the chronic contracted gland I am unable to say. In chronic prostatitis due to distemper secondary infection, treatment has been unsatisfactory and all the cases seen have been destroyed in the end. The answer here is obviously early diagnosis and prompt sulphonamide treatment.

Summary of Cases

The following is a summary of cases seen in this practice over approximately two years:—

Number of cases seen, 42: Cases of hypertrophy, 28; Cases of contracture, 14.

Differential diagnosis in hypertrophy.—Suspected neoplastic, 20; Benign hypertrophy of unknown aetiology, 6; Unclassified, 2.

Differential diagnosis in contracture.—Suspected distemper infection, 5; Endocrine imbalance syndrome, 6; Unclassified, 3.

Mortality.—Neoplastic: Alive, 7; Dead, 8; Unknown, 2. Benign hypertrophy of unknown aetiology: Alive, 3; Dead, 3. Distemper infection: Alive, 1; Dead, 4. Endocrine syndrome: Alive, 1; Dead, 5. Unclassified: Alive, 2; Dead, 1; Unknown, 2.

Mortality in neoplastic group.—Malignant: Alive, 4; Dead, 2; Unknown, 1. Benign: Alive, 1; Dead, 3; Unknown, 2.

As will be seen, the prognosis of prostatic disease, whilst serious, is not so bad as the prognosis of suspected neoplastic growth in other parts of the body where surgery is impossible. The above only holds true, of course, in cases of hypertrophy. In cases of contracted gland the prognosis always remains serious. No side effects have been observed in using stilboestrol in the large doses which are given, sometimes over weeks, and since a common side effect in the human is swelling and tenderness in the breasts it should be fairly easily recognized and is a sign to decrease dosage or dose rate.

References

[1] Lamy, M. Hypertrophy of prostate and prostatectomy in the dog. *Rec. Méd. vét. exot.* **107.** 343–350.
[2] Schnelle, G. (1940.) *N. Amer. Vet.* April. p. 222.
[3] Werner, J. J. (1942.) *Ibid.* July. p. 472.
[4] Niehans, P. (1946.) Le cancer de la prostate et le hypertrophie des glandes paraprostatiques. *Lancet.* June 22nd.
[5] Walker, K. M. (1933.) "Enlarged prostate and prostatic obstruction."
[6] Wray, S. (1945.) Blood acid phosphatase in prostatic cancer. *Lancet.* June 23rd.
[7] Uvarov, O. (1944.) Quantitative urine analysis in the dog and its clinical significance. *Vet. Rec.* **56.** 237–240.
[8] Knight & Douglas. (1943.) Incidence of cancer in dogs. *Ibid.* **55.** 195–196.
[9] Holmes, J. W. H. (1933.) Canine and feline skin diseases. *Ibid.* N.S. **13.** 609–619.
[10] Smythe, R. H. (1945.) The treatment of certain canine neoplasms by stilboestrol. *Ibid.* **57.** 115.
[11] Zuckermann & McKeown. (1938.) *J. Path. Bact.* **46.** 7–20.
[12] Pearmann & McCapes. (1943.) Canine urology. *J. Amer. vet. med. Ass.* Dec. p. 374.
[13] Annotation. (1945.) *Lancet.* Jan. 13th.
[14] Editorial. (1945.) *Ibid.* June 23rd.
[15] Schlotthauer, C. F., & Bollman, J. L. The effect of artificial cryptorchidism on the prostate gland of dogs. *Amer. J. vet. Res.* **3.** 202.

Final Note

Since the main part of this article was written an important article having a bearing upon prostatic disease has been published in the *J. of Cancer Res* **5.** (1945.) 510-514, by C. Huggins and P. V. Moulder: Oestrogen production by Sertoli cell tumours of the testes. This article has only just been brought to my notice through an abstract in the *N. Amer. Vet.*, August, 1946. This work would seem to confirm the clinical findings in regard to alteration in the character of the prostate gland when the testicles are diseased through neoplasms. The authors have identified these tumours as being Sertoli cell tumours (testicular tumours which

(Continued at foot of col. 1, p. 53)

Common Ailments of Canaries

The following contribution to the *Indian Veterinary Journal* by Lieut. G. Venkata Narusu, of Gwalior, is reproduced as a useful source of information for veterinarians consulted about cage birds.

The following are some of the important diseases of canaries:—

Constipation.—This is mainly a disease of dietetic origin. Canaries get this complaint often due to wrong methods of feeding. Generally speaking, their staple diet is the canary seed mixture. But they enjoy a change in diet, such as the yolk of a hard-boiled egg twice a week; green foods, such as cabbage, mustard leaves, lettuce leaves, and also a variety of other seeds, *viz.*, rapeseed, hempseed, poppy seed and linseed. It is always a good plan to hang a piece of cuttle bone in the corner of the cage for the birds to peck, and to spread in the tray at the bottom of the cage fine sand with a little nicely crushed oyster shell and also small gravel stone. Feeding the birds always the same variety of seed will cause constipation.

The bird appears very dull, and the droppings are hard.

Treatment.—Administer one drop of Ol. Ricini by means of a dropper in the beak; also add a pinch of magnesium sulphate in drinking water twice.

Coryza.—Canary birds often suffer from this complaint if exposed to chill weather.

There is a discharge from the nostrils and the bird will begin to shake its head as if to get rid of something.

Treatment.—Clean the mouth and nostrils with potassium permanganate solution 1 to 1,000. Keep the bird in a quiet dry place. Put a few drops of honey in the drinking water. Allow as the diet egg yolk to which has been added five drops of Super D cod-liver oil.

Bronchitis.—This follows generally as a sequel to catarrh.

The canary becomes restless with a husky and dry cough; a sort of rattling noise in the throat is observed. Feathers look ruffled.

Treatment.—Give the following:—

Spt. Camphor Co., m.i; Tragacanth, gr.ii; Glycerin, m.x; M. Sig. Add to 1 oz. of drinking water.

If the bird appears better after a couple of days discontinue the foregoing and give:—

Tr. Ferri. Chlor, m.ii; Tr. Gentian Co., m.v; M. Sig. Add to 1 oz. of drinking water.

Feed bread moistened with milk and poppy seed sprinkled over it.

Asthma.—This ailment is caused by neglected chills; overheated aviaries, and lack of proper ventilation. This is differentiated from ordinary bronchitis when there is difficulty in respiration and the canary appears wheezing and panting.

Treatment.—The same as for bronchitis. But add one drop of Tr. aconite or one drop of Tr. lobelia to about an ounce of the drinking water. These two drugs have given successful results. Attend to ventilation.

Fits and Fainting.—These are observed in canaries when they are accommodated in very small cages, and exposed to the direct rays of the scorching sun, and also when they are frightened.

The canary suddenly falls from the perch with its beak striking against the tray in the cage and becomes very stiff. If not attended to immediately it may die in a few minutes.

Treatment.—Dash ice water against the head and put some of it in its beak. With this simple treatment, the bird generally recovers. Then keep the bird in a very cool, quiet, comfortable and dark room. Feed him as usual, also add a pinch of magnesium sulphate to drinking water later on.

Cholera.—This is a highly fatal infectious disease caused by microbes of the intestinal tract similar to *Pasteurella avicida* (*B. avisepticus*) of fowl cholera. The source of infection is dirty water and unhygienic methods of feeding.

Diarrhoea with an offensive odour, thirst, vomiting and shivering will be evident; also cramps and convulsions eventually ending in death.

Treatment.—Drugs such as tragacanth, kaolin, chlorodyne and B.I. intesti-phage in drinking water have been tried without any success, the mortality being 100 per cent. So, the best method of handling is prevention. Destroy the affected bird by adding a teaspoonful of camphor water to its drinking water. Strict sterilization of the cages, seed-hoppers, drinking vessels, and other utensils of the aviary should be enforced.

Avian Diphtheria.—This infection is caused by a filtrable virus, the same organism that causes pox. It is generally brought about by bad food, dirty water and neglected cold. This condition is recognized by examining the mouth of the canary, wherein we find a yellow or greyish exudate extending to the throat region with foetid odour.

Treatment.—Destroy the infected canary at once, burn the cage and its belongings. Remove the rest of the birds from the aviary and give them a good bath by keeping the birds in a bath cage, taking care to see that some reliable disinfectant such as lysol is added to water in the tub.

Sweating.—This happens to growing young birds in the nest during breeding season, the hen will sit very close to the young ones, causing them much annoyance. Hence the young birds appear very miserable instead of looking hairy and fluffy.

Treatment.—Separate the cock from the hen; also the youngsters at times. Add five drops of Tr. gentian compound and two drops of Tr. ferric perchloride to the drinking water. This procedure will generally set right the hen and stop her bad practice.

Egg-bound.—This complaint also occurs during the breeding season. The hen shows signs of distress with feathers muffled and sits in a corner of the cage, as if about to die.

Treatment.—Remove the hen from the cage and hold her over a glass jar containing boiling water. Keep the hen in such a position as to expose the vent to the rising steam. After a few minutes of steaming, gently drop a little sweet oil or olive oil in the region of the vent and put her on the nest. This will set right the hen and the egg will be safely deposited.

Pip.—Is a condition in which the anal gland at the root of the tail enlarges with the accumulation of pus-like material.

Treatment.—Open the gland with a sharp pin or needle; allow the pus to escape. Clean the part with aseptic cotton wool and touch with a glycerine swab. If this complaint is neglected, the bird will die in a couple of days.

Sore Feet.—This condition is brought about by bad perches.

Treatment.—Dip the bird's feet in warm water, thoroughly clean and dry them. Apply boric ointment.

Inflation or Emphysema of the Body.—In this trouble, air accumulates underneath the skin and subcutis, and the bird appears bigger than its usual size.

Treatment.—Take hold of the skin between the thumb and finger and puncture skin with a sharp needle. The air will escape. Apply turmeric or Tr. benzoin compound to the wound. Allow green food, and add Tr. ferric chloride two minims and Tr. gentian compound five minims, glycerine ten minims to the drinking water.

In addition to the diseases mentioned in the foregoing, canaries develop many minor complaints such as overgrown beak, overgrown toe nails, cuts and injuries, etc., which do not require any treatment other than the usual routine and also careful handling during sickness.

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produce an endocrine imbalance through increased oestrogen production). The article (also) has important bearings in other respects in connection with the prostatic syndrome.

Acknowledgments.—I am indebted to Harry Holroyd, Esq., M.R.C.V.S., for the interest, encouragement and criticism he has given, both in regard to the actual clinical side and the preparation of this article. Also Messrs. H. & J. Holroyd, in whose practice these cases have been seen, for the encouragement and help they have given me clinically. The photographs were kindly taken by Sharples (H. Duckworth), 4, Limbrick, Blackburn.

MEMORIAL TO SERVICE PIGEONS

The exploits of Service pigeons during the war are well known. Detachments of the Army Pigeon Service flew in the Western Desert, in Italy, and in western Europe. Many took part in the R.A.F.'s offensive thrusts into occupied Europe, and some served with secret agents and the resistance groups. Their casualties were heavy, and their sacrifice has been commemorated by a memorial in the garden of All Hallows-by-the-Tower "to warrior birds who gave their lives on active service, 1939-1945."

In the Royal Horticultural Hall recently many of the survivors met at the Old Comrades Show, arranged by the *Racing Pigeon*, all proceeds being given to the Star and Garter Home for Disabled Sailors, Soldiers, and Airmen.—*The Times.*

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Weekly Wisdom

"*Mieux vaut reflechir trop que trop peu.*"—French Proverb.

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The National Horse Association (43, Russell Square, W.C.1) announce that an illustrated booklet emphasizing the advantages of the horse for commercial work is now available. Copies can be obtained from the Association. Applicants should send postage, and if quantities are required, a small donation will be appreciated.

CLINICAL COMMUNICATION

Lameness of Undetermined Cause in Cattle Associated with Gangrene*

by

H. LLEWELYN JONES, M.R.C.VS.

Denbigh

On October 26th, 1946, I received a telephone message asking me to go and see four cows in a herd of seven which had in two days become acutely lame in the hind legs. Over the 'phone I gathered all the information I could from the owner, *re* the symptoms which he was able to observe. Having got this, I considered it quite safe to proceed there with a load off my mind. Two out of four affected cows were lying down and got up only with the greatest difficulty. I noticed that both hind legs in each case were considerably swollen from the pastern to half way up the cannon bone. On the surface of the skin were beads of moisture and the parts were so painful that the animals could not bear even the touch of the fingers—they soon lay down on account of the pain. In the other two cows only one hind leg was affected, the right leg in each case. These were also swollen and extremely painful to the touch—the other legs were perfectly normal and so were the front legs in all four cows. Temperatures in all cases ran from 104 to 105° F. There was somewhat accelerated breathing and a rapid 'wiry' pulse and almost complete cessation of milk secretion.

On further enquiries I found that the first case was noticed to be lame two days previously and the other three cases on the day following as they were being brought in at evening milking time. The farmer reported that the seven cows had suddenly shown a decided tenderness of the udder at milking time a few days before the first became lame. Up to October 17th, they had been grazing an old pasture, but on that date they were moved into a field of clover and rye grass, the latter grown for seed purposes which the farmer had intended 'to harvest' but did not do so on account of the bad weather. There were no ponds, streams or manure heaps in this particular field.

I had to admit to the owner that I did not know the cause of this acute dermatitis and cellulitis and that I could only treat the symptoms—*viz.* with sulphanilamide internally and soothing ointments on the affected parts and a laxative diet. The animals rapidly lost condition—developed bed sores—shed the horny covering on the small digits at the back of the fetlocks and eventually one cow shed the hooves from all four digits in the hind legs and was destroyed on humane grounds—but not before areas of necrotic patches of skin sloughed off around the fetlock. One other cow is gradually becoming similarly affected at the time of writing and will probably have to be destroyed. These cases have puzzled me and I am inclined to believe that the bacillus of necrosis or the clover aftermath have something to do with it. Though none of the cows on the premises was suffering from 'foul,' this condition is not unknown to the farmer, who reported having had an odd case two years ago. I sent one of the hind legs to Dr. G. O. Davies, Department of Veterinary Pathology, Liverpool, who very kindly examined it but was unable to come to any final opinion as to the cause of the condition. A great variety of organisms including anaerobes and some resembling the bacillus of necrosis were seen on stained smear preparations from the subcutaneous tissue. The presence of *Cl. welchii* toxin in the tissues was confirmed biologically. Dr. Davies concluded that it was not impossible or unlikely that this infection was of a secondary nature to an initial necrosis infection, as I had suggested to him in my covering letter. I have since wondered whether there is any association between this 'outbreak' and the very numerous 'outbreaks' of so-called 'fog fever,' oedema of the lungs—or 'Clwy'r Adlodd' as we call it in Welsh—which we have met with in this practice during the last two or three months—anything from three to six cows becoming suddenly affected on the same premises. I have never seen so many cases on so many farms.

[Since the presentation of this case report the two cows that were kept alive—with only one leg affected—eventually had to be destroyed, because the lower part of affected limb actually dropped off at the fetlock joint.]

* Presented to the North Wales Division, N.V.M.A., at Llangollen. November 22nd, 1946.

The Ministry of Food is importing 720,000 cases of Hollands and Geneva gin and also frozen crawfish tails from South Africa. What a kick agriculture gets out of this news and how elated the housewife must be!—*Farmer and Stock-Breeder.*

ABSTRACTS

[Posterior Paralysis Associated with Intervertebral Disc Protrusion in the Dog. Riser, W. H. (1946.) *N. Amer. vet.* **27**. 633-642.]

The author gives a well-illustrated account of the condition of posterior paralysis in the dog which appears to result from compression of the spinal cord due to the protrusion into the spinal canal of part or the whole of the nucleus pulposus of an intervertebral disc. This is a disease of the adult dog, being most common from the fourth to eighth year of age. Any breed of dog may be affected, but most cases are seen in Pekingese, dachshunds, and cocker spaniels. Males are more often affected than females. The lesions, which are sometimes multiple, are most often found in the lumbar region, particularly in the 2nd to 5th lumbar intervertebral spaces.

The responsible lesion appears to be either a herniation or a complete escape of the nucleus pulposus of an intervertebral disc through the annulus fibrosus into the spinal canal; in the dog, even a slight protrusion of the disc material may cause extensive damage to the cord, as there is very little space between the spinal cord and the vertebrae. The symptoms depend on the position of the protruding disc, and the degree of compression of the spinal cord. All degrees of involvement are seen, the symptoms varying from hypersensitiveness of the skin sensory nerve endings to total flaccid posterior paralysis. These symptoms may come on after exaggerated exercise, jumping, mating, and so on, or the condition may be noticed one morning in a dog that was apparently normal when put to bed the previous night.

Positive diagnosis may be made by injecting the radio-opaque substance lipiodol at the cisterna magna, and allowing it to filter down through the subarachnoid space: a radiograph will show whether there is a partial or complete blockage to this flow by the protruding disc. If the protrusion is not too great, the animal may slowly recover with proper care and nursing, but if the onset of posterior paralysis is sudden and complete and the paralysis is of the flaccid type, no improvement can be expected. Repeated attacks may occur.

E. C.

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[The Utility of D.D.T. for the Control of Poultry Ectoparasites. Quigley, G. D., & Cory, E. N. (1946.) *Poultry Science.* **25**. 419-423.]

Tests were made to determine the toxicity of D.D.T. for poultry and hatching eggs, and its safety as an insecticide. The authors found that oral administration of 200, 250, 300, 350, and 400 mg. of D.D.T. in capsules to cockerels weighing 1,325 to 1,770 grammes produced drowsiness for a few hours. No deaths occurred up to 15 days after dosing, but subsequent autopsies showed diffuse enteritis, slight necrotic patches in the crop, atony of the gizzard muscles, swelling and mottling of the kidneys, and some distension of the ureters. Oral administration of 50 mg. of D.D.T. daily in capsules to cockerels for ten, 20, and 30 days produced toxic effects only after 20 days, but the same amount given daily in the mash for periods up to 120 days produced slight toxic effects for 48 hours only. There was no adverse effect on hatchability when D.D.T., as a 20 per cent. or one per cent. dust in pyrophyllite or as a one per cent. emulsion in triton-xylol, was applied to the eggs or when 50 per cent. D.D.T. in pyrophyllite was used in the incubator to control cockroaches.

In studying the value of D.D.T. for louse control, two per cent., ten per cent. and 20 per cent D.D.T. with pyrophyllite was dusted on the body of laying birds. These concentrations removed 100 per cent. of body lice within 48 hours, and reinfestation could not be experimentally established after 30 days. Dusting the litter was not so effective as dusting birds on the roost in destroying shaft and body lice. The most satisfactory method was to dust roosting birds twice, at least two weeks apart, with 20 per cent. D.D.T. in pyrophyllite.

No toxic effects were observed either in rats fed with eggs from birds each receiving 50 mg. D.D.T. daily in the mash, or in young birds fed with 25 or 50 *Musca domestica* killed by D.D.T. Bedbugs were easily destroyed in a laying house by a five per cent. solution of D.D.T. as a water emulsion in triton-xylol, and birds showed no harmful effects when returned immediately after spraying.

M. L. B.

For the first time in history a consignment of racehorses have been flown across the Atlantic. They left Shannon Airport for Los Angeles, and after a brief halt at Newark, reached their destination in excellent condition.

LAW REPORT

Sequel to Inoculation Against Corynebacterium pyogenes (Summer) Mastitis

Full Text of Mr. Justice Hallett's Judgment in the Chester Case

In our issue of November 9th we reported the result of the important case heard at Chester Assizes in that month, when after a four-day hearing Mr. Justice Hallett awarded the sum of £3,341 to two farmers who claimed £3,856 for the loss through inoculation of cows and heifers in their herd of an alleged poisonous toxoid as a preventive against summer mastitis.

The farmers, Robert Norman Dodd and his brother, Frank Leslie Dodd, farming in partnership at Buerton Hall Farm, and Lightwood Green Farm, Audlem, Cheshire, had claimed damages for breach of contract from Messrs. Wilson and McWilliam, veterinary surgeons of Barker Street, Nantwich, who had joined Willington Medicals Ltd., of Shrewsbury, the suppliers, and Phylax Serum Laboratories Ltd., of Radlett, Herts, the manufacturers, as third and fourth parties respectively.

Mr. Justice Hallett gave judgment for the farmers with costs against the veterinary surgeons. He also gave judgment, with costs, for the surgeons against Willington Medicals Ltd., and judgment, with costs, for Willington Medicals Ltd., against Phylax Serum Laboratories Ltd.

Publication of our commentatory report of the proceedings still awaits decision as to an appeal; in the meantime, we had hoped to publish, with Mr. Justice Hallett's judgment (reproduced in full below) an extended report of the veterinary evidence and have delayed publication in the hope of securing a typescript. We now learn, however, that as a typescript of the evidence was not called for by any of the parties concerned, one cannot be obtained except at prohibitive cost.

The following members of the profession appeared as witnesses in the case:—

Called by the plaintiffs.—Dr. W. R. Wooldridge.

Called by the defendant veterinary surgeons.—Professor George H. Wooldridge.

Called by Willington Medicals Ltd.—Messrs. J. Adamson, C. J. Peach and D. Sinclair.

Both Mr. Thos. Wilson and Mr. Jas. McWilliam, the veterinary defendants, being members of the National Veterinary Benevolent and Mutual Defence Society, were from the outset in the closest touch with the Society, which gave them all possible assistance and support, instructing solicitors to defend the case.

Mr. Ralph Sutton, K.C., and Mr. Francis Williams appeared for the Plaintiffs; Mr. Edmund Davies and Mr. Fenton Atkinson for Messrs. Wilson and McWilliam; Mr. A. D. Gerrard, K.C., and Mr. Wallace Jones for Willington Medicals Ltd., and Mr. A. V. Aronson and Mr. J. Amplett for Phylax Serum Laboratories Ltd.

The Judgment

Mr. **Justice Hallett**: This is an interesting and not altogether easy case. The plaintiffs are two brothers who carry on business in partnership as dairy farmers and stock-breeders at Buerton Hall Farm and Lower Lightwood Green Farm in the County of Chester. In July of 1945 they were the owners of a valuable herd of pedigree and non-pedigree cows and heifers.

The defendants are two gentlemen who carry on practice in partnership as veterinary surgeons. They were at all material times the veterinary surgeons regularly employed by the plaintiffs. In fact, Mr. Wilson, the senior partner, had been veterinary surgeon to the father of the plaintiff Robert Norman Dodd and had been the veterinary surgeon attending to the cattle of the farm for, I think, 14 years.

The herd at Lower Lightwood Green Farm was a tuberculin-tested herd and the herd at Buerton Hall Farm was being brought up to that standard. As a result, the defendants had had particularly good opportunities of examining the cattle comprised in the herd, and the evidence is that prior to July 9th, 1945, it was a herd in very excellent condition.

The third parties, Willington Medicals Ltd., describe themselves on a catalogue which is before me as Medical and Veterinary Chemists, and in the introduction to the catalogue they certainly produce the impression that they themselves compounded or manufactured the various preparations which they offered for sale, but Mr. Gould, their managing director, has told me that they do not in fact undertake the compiling and manufacture of serum or vaccines and that the catalogue in question is ten years old, and it is common ground now that the particular preparation with which I am concerned in this case was manufactured by the fourth parties, whose name is Phylax Serum Laboratories Ltd., was by them supplied to the third parties, and was by the third parties in turn supplied to the defendants, who undoubtedly believed that the third parties were the actual manufacturers of the preparation.

The Phylax Serum Laboratories Ltd. is a company which was formed, with financial assistance from some other people, by a gentleman named Dr. Csonka. Dr. Csonka qualified in veterinary surgery at the University of Budapest more than 20 years ago. He held a post for some time at an Institute in Hungary and was then for some 15 years the Director of the State Sera-Therapeutic Institute in Vienna. He left Austria at the time of the Anschluss and founded the company which is the fourth party, and that company manufactures sera and vaccines, including toxoids.

In 1944, when Dr. Csonka was in conversation with Mr. Gould, a question arose of a disease or complaint known as Summer Mastitis, or in this county, I think, as Garget, which sometimes afflicts herds of cows, especially in-calf cows, during the summer months, and causes an inflammation of their udders, and may have serious consequences, including even the death of the calves. Dr. Csonka told Mr. Gould that there was a comparatively recently discovered toxoid which had been used as a preventative or cure for this complaint of summer mastitis. The toxoid in question is called Corynebacterium Toxoid.

I do not desire to go into the scientific aspects of the matter more than is necessary in order to render my Judgment intelligible, but it may be helpful if I say just one word as to what I understand to be the nature of such a toxoid. I understand that the bacteria which cause a certain disease are produced on a culture and that the toxin from those bacteria is then treated with an appropriate chemical in the appropriate strength and at the appropriate temperature and for the appropriate length of time, and that by such treatment there is produced what is called a toxoid. The toxin is neutralized or rendered atoxic by the treatment which it receives, and the toxoid is produced. That toxoid, when injected into the animal, stimulates or causes the production of antibodies which, so to speak, fight against the bacteria of the disease in question and therefore may have a preventative effect, or, if the animal has already contracted the disease, may have a curative effect, although I do not think in the latter use as strong a dose is necessary.

Dr. Csonka having told Mr. Gould that this corynebacterium toxoid was being used to counteract summer mastitis, Mr. Gould asked Dr. Csonka to let the Willington Medicals Ltd. have a supply of the toxoid from time to time as required. During one of the routine calls which Mr. Gould made upon the defendants, once more the question of summer mastitis arose. Mr. McWilliam, the junior partner, was anxious to give that preparation a trial. Mr. Wilson, the senior partner, was less enthusiastic, but there was some discussion, during which Mr. Wilson came in, and Mr. Wilson said: "I don't suppose it will do any harm, if it doesn't do any good." Mr. Gould at once replied that of course the preparation was perfectly harmless, and so the defendants in fact obtained from the third parties, who in turn got it from the fourth parties, a consignment of this toxoid.

On June 11th of 1945 the defendants got a consignment of 24 bottles, and from that consignment they treated 32 cows belonging to a Mr. Alan Dodd, who is a brother of the plaintiffs, and there were no ill-effects of any sort. They also treated, it would appear, the cows of two further gentlemen, one I think called Stewart Brown and the other called Astbury; 50 cattle of Mr. Brown and 30 cattle of Mr. Astbury were treated.

Now it so happened that Mr. Brown was a cousin of the plaintiffs, and as a result of something which he said to the plaintiffs, or to one of them, Mr. Robert Norman Dodd went to see Mr. McWilliam some time in June of 1945 and asked Mr. McWilliam whether he could recommend any treatment or preventative for this disease of summer mastitis. Mr. McWilliam said that he had inoculated the herds of Mr. Brown and Mr. Astbury and had had fairly good results. Mr. Dodd asked Mr. McWilliam if Mr. McWilliam recommended the treatment for the plaintiffs' herd, and Mr. McWilliam replied that he would not guarantee that the preparation would either prevent or cure mastitis, but in any event it could do no harm. There is no dispute, I should say, as to that having been what Mr. McWilliam said to Mr. Dodd.

Thereupon Mr. Dodd told Mr. McWilliam to arrange to go and inoculate the plaintiffs' herd, his words, so far as he can remember them, being "Will you get the stuff and come and do them as soon as you can?" and ultimately it was arranged that Mr. McWilliam should go to the two farms of the plaintiffs for that purpose on July 9th.

Now these bottles contain 100 c.c. of the corynebacterium toxoid, and the prophylactic or preventative dose is 20 c.c., but that is administered in three doses, the first being a dose of 10 c.c., so that one of these bottles contains enough of the substance to give the first preventative dose to ten cattle. The batch or consignment of 24 bottles which the defendants had obtained under an invoice of June 11th had all been used by the time of which I am speaking, except for two bottles, and accordingly the defendants asked the third parties to send another 36 bottles, conveying to the third parties that a further supply was urgently required because they wanted it to use for an inoculation on July 9th, which I think was a Monday.

Accordingly, the third parties invoiced 36 more bottles, but actually supplied in the first instance only 18 bottles. At a later date they supplied another nine bottles, but I do not think it is necessary to consider what became of those.

On July 9th, about 2.30 in the afternoon, Mr. McWilliam arrived at Buerton Hall Farm. He had with him a package which contained what I will now call the new bottles, and he also had two loose bottles left over from what I will now call the old bottles, and Mr. McWilliam said he had those two bottles from a previous consignment and he proposed to use them first.

At Buerton Hall Farm there were ten cows tied up separately in what was called the T.T. (which I suppose is tuberculin-tested) shippon, and Mr. McWilliam proceeded to inoculate those first, using, as he is quite positive, one of the bottles from the earlier consignment. Those cows came by no harm at all, and it is a matter of considerable significance in this case. There were twelve more cows on the farm, but by the time the first ten cows had been inoculated the heifers on the farm had been collected and were ready, and because they were not tied up and it was therefore desirable to deal with them as promptly as possible, Mr. Dodd asked Mr. McWilliam to deal with the heifers next. There were 28 heifers which had been collected and there was only one bottle of the old consignment left, so Mr. McWilliam went to his car and opened the package and got out three more bottles, which would supply sufficient to do the 40 cattle which at that farm remained to be done, and he then proceeded to inoculate the 28 heifers, and after he had done the 28 heifers he did the twelve remaining cows.

Now in doing that he used up what I will call the old bottle, but he is of course quite unable to say which particular cattle were done with that second bottle of the old batch. What is exceedingly significant, however, is this, that that second bottle of the old batch would have provided enough material to do ten heifers or ten cows, or a number of cattle amounting to ten in all, and in fact exactly ten, no more and no less, of the heifers which were done escaped all ill-effects, whereas every single one of the cattle, heifers or cows (apart from those ten cows done with the first batch and the ten heifers done with we know not for certain which batch) was made ill in a way which I shall presently describe.

To my mind, the inference is quite irresistible that the ten heifers which escaped escaped because they were the ten head of cattle inoculated from the second bottle of the old batch. So we have the position that 20 cattle inoculated from the old batch suffered no ill-effects, being all the cattle inoculated from the old batch, and all the cattle inoculated from the new batch did suffer the ill-effects to which I now proceed.

After the cattle inoculation had all been completed—that is to say, ten T.T. cows, 28 heifers and ten other cows—Mr. McWilliam went on to Lower Lightwood Green Farm, which was about three miles away, and there he inoculated 30 more cattle, of which twelve were heifers and 18 were cows. The time which Mr. McWilliam took to perform this operation has been estimated by him and it would seem that in all the operation took something over two hours. I think the work was more or less evenly divided between the two farms, and he had to go from one to the other.

Now between half and three-quarters of an hour after Mr. McWilliam had done his work at Buerton Hall Farm it was noticed by the herdsman that the cattle had become ill. They were grunting and perspiring—some of them, though some were all right. Later on, after some time, they began to suffer from diarrhoea and they were passing blood when tied up in the stalls, and they were wet over with perspiration. But, as I have said, the T.T. cows in the special shippon were quite all right, and so were ten out of the 28 heifers.

Mr. Cairns, the herdsman at Buerton Hall Farm, was asked when he first noticed that the beasts were sick, and he said that it was about half an hour after Mr. McWilliam had gone. Mr. McWilliam was asked, as I have already mentioned, how long the operation took, and his evidence was that the inoculation at Buerton Hall Farm took about one and a half hours, of which about a quarter of an hour would be for the first ten, and he spent about three-quarters of an hour at Lower Lightwood Green Farm. It seems plain, therefore, that it was over an hour after the inoculation of the first of the beasts that were affected that signs of their sickness were apparent. Later, at again half an hour to three-quarters of an hour after the injection, the herdsman at Lower Lightwood Green Farm saw that the cows were in a bad state—grunting, panting, the tongues of some of them showing, some of them passed blood, and ultimately some of them suffered from diarrhoea. The result of this outbreak of sickness was extremely serious, and I shall have to say something more about that when I come to deal with the question of damages.

The question arises, what caused this outbreak of sickness? One thing seems to be quite clear and is, I think, agreed upon by all the scientific witnesses who have been called before me, and that is, that the cause of the sickness which befell these 60 animals—the 30 at the one farm and the 30 at the other—was the inoculation, but that still leaves the issue which has been the main issue of fact in the present case.

Theoretically, it would appear that there were three ways in which the inoculation could be the cause of the symptoms which were observed. In the first place, if, in the process of preparing the toxoid, some bacteria had been left alive, so that living bacteria were injected into the animals, it would seem on the evidence that theoretically that might have been the cause of what was observed, but all the witnesses who dealt with the scientific aspects of the matter are agreed, I think upon both sides, that the possibility of any live bacteria having been left is so remote that for the purposes of my decision I can ignore it.

That leaves, then, two alternative suggestions. One is, that despite the treatment which the toxin had received, the ultimate product had not been rendered completely atoxic; that there was sufficient toxin or poisonous matter left to poison the cows, and that, to put it shortly, the symptoms observed were caused by toxaemia. That is the solution which is put forward for acceptance by the plaintiffs.

The other explanation is that these particular cows had a peculiarity or an idiosyncrasy or allergy—various words have been used—which rendered this particular batch of toxoid obnoxious to them. Mr. Gerrard put forward a theory that there may be an arrangement of proteins, as I gather, in the blood of animals which clashes with the arrangement of proteins in a particular batch of toxoids and so causes a conflict which would produce symptoms such as those observed in the present case, and whatever may be the true explanation of the phenomenon called anaphylaxis—on which there was some doubt and some conflict—the phenomenon itself is undoubtedly one which from time to time is observed, namely, that some particular animal in a rare case, few and far between, does show reaction to a toxoid which is not normally shown by an animal at that time to that particular toxoid.

An example which is perhaps easiest for someone like myself to understand is that one knows there are from time to time instances of people who cannot eat perfectly wholesome shellfish without showing unpleasant symptoms, or in some cases eggs, and there are other things which certain individuals cannot tolerate.

That is the defendants' notion of what happened here, that the symptoms were anaphylaxis, the disagreement of this toxoid with these particular animals. The issue might be put quite shortly in this way: was it something wrong with the toxoid or was it something wrong with the animal which caused these symptoms observed? I think it is common ground that it must have been one of the two.

Now as showing that it was not something wrong with the toxoid Mr. Gerrard, for the third parties, has made a number of points which were certainly worthy of very serious consideration. In the first place, he called before me Dr. Csonka, who prepared the toxoid, and his laboratory assistant, and has put before me in detail the process which was used.

One criticism of the process was made by Dr. W. R. Wooldridge, who was called for the plaintiffs. He said that usually after the filtration the product is chemically analysed to find out what proportion of nitrogen is present and to determine the right amount of formaldehyde accordingly, and he says that if, in a batch which has a great deal of toxin, the maker puts in the proportion of formaldehyde by rule of thumb, that would lead to the risk that the toxin might not be properly neutralized or de-toxicated; but apart from that criticism it is agreed, I think, that the process described by Dr. Csonka would be the proper process for preparing such a toxoid.

Next, Dr. Csonka said—and some evidence was called to support him—that he tested the product for atoxicity upon two guinea-pigs and two white mice, and that they showed no ill-effect. Again, there is a criticism about that made on behalf of the plaintiffs. It is said that while that number of animals may be used and may, generally speaking, be enough, yet such tests may be in-

sufficient to disclose the toxicity still existing in the product. However, those tests were made, and according to Dr. Csonka no ill results were observed with the test animals.

Then it seems that 60 bottles in all of this batch, batch No. 46, were distributed, and there were called before me three veterinary surgeons, named respectively Adamson, Peach and Sinclair. Mr. Peach used some of the toxoid between July 18th, when it was invoiced to him, and a day or two after August 3rd. Mr. Sinclair used some of it on July 28th, and Mr. Adamson used some of it on August 17th. A cow on which it was used by Mr. Adamson died on August 19th, but that cow was already ill with the disease, and the other two veterinary surgeons, Mr. Peach and Mr. Sinclair, observed no ill results.

Lastly—and if I have not mentioned all Mr. Gerrard's points it is not because they are not all in my mind, and I may remark that I read through the whole of the evidence last night—lastly there is evidence from Dr. Rhodes that tests which he made in September and October on certain bottles from the batch supplied to the defendants were of no value as regards the negative results which they disclosed, because even if the product had still been toxic on July 9th he would have expected its toxicity to have vanished by the time he made his tests.

Now at first sight that would appear to help the plaintiffs, because it means that Dr. Rhodes' tests of the bottles left over were of no use to the defendants as negativing the toxicity of the product, but Mr. Gerrard points out, and I think rightly points out, that if the toxicity would have disappeared between July 9th and September, equally one would have expected it to disappear between the beginning of April, 1945, when batch 46 was made, and July 9th, 1945, when some of it was administered to the plaintiffs' two cows. That seemed to me to be a very powerful point, and coupled with the other points there was indeed strong ground for doubting whether this toxoid which was administered to the plaintiffs' cattle can in fact still have been toxic at the time of the administration.

On the other side—and of course the burden is upon the plaintiffs—on the other side there are two points to which I must now refer. I have already stated the time which elapsed before the symptoms were noticed after the cattle had been inoculated, and there is a powerful and I think convincing body of evidence before me, that if the symptoms had been due to anaphylaxis they would have been apparent much more quickly, at any rate in the case of some of the animals. The fact is that none of the 60 animals showed any symptoms from the inoculation at once. I am told that in the case of anaphylaxis the onset of the symptoms may be so rapid that it may even occur before the inoculation has finished. Here you have the striking fact that 60 animals are inoculated and suffer ill results, and in none of those cases was the onset of the symptoms more rapid than from about half to three-quarters of an hour.

It is to be observed that at Buerton Hall Farm the symptoms were first observed about half an hour after the veterinary surgeon had gone, and indeed it seems to me quite plain there were no symptoms observable while the veterinary surgeon was there, because otherwise he would have told me so, and no doubt his attention would have been specifically drawn to these symptoms by the herdsman.

The other point—and in my mind it has an even more overwhelming effect—is this. Anaphylaxis is due, as all the witnesses agree, to an idiosyncrasy. It is due to some particular circumstance in the constitution of the particular cow or other animal affected. Now if it could be shown that a number of animals had all been sensitized in the same way, then it might be somewhat more possible to suppose that all of them would be affected in the same way by the administration of doses from a single batch of toxoid, and for that reason Mr. Gerrard, with his usual care and skill (and, if he will allow me to say it, knowledge of such questions) did explore the possibility that all these 60 animals had been sensitized by some common factor. He explored the possibility of their being blood relations. As soon as that was explored it was apparent that that explanation completely broke down; they were not blood relations. I only need refer to the evidence without taking up time by restating what it was.

Then it was suggested they might all have been sensitized as the result of earlier inoculations for another purpose, and that again, as soon as it was explored, completely broke down. It turned out that while the heifers had been inoculated within the previous ten months the cows had not; they had been inoculated at an early period in their life, and so one of the witnesses for the anaphylaxis theory said that the earlier inoculations could be ruled out as a predisposing factor. The witness to whom I refer was Dr. Rhodes, and Dr. Rhodes definitely ruled out previous inoculation as a predisposing cause, and he said frankly "It therefore comes down to feeding."

Now apart from any assistance that I might have got from the scientific witnesses, I know sufficient of the facts to know that common sensitization by feeding was, to say the least, extremely unlikely. As I have already pointed out, the affected animals were equally divided, as it happened, between the two farms—18 heifers and twelve cows at one farm and 30 animals at the other farm. If the feeding theory ever had any life in it which I doubt, I think that life disappeared when Dr. Grace, the last witness called before me, said that in his view the possibility of the animals all having been sensitized by feeding was very small. I had better read his own words. "I think the possibility of the protein sensitivity coming *via* the food that the animals might have eaten is very small."

So there is then nothing to suggest that there was some common factor which sensitized all these animals so as to render them allergic to this particular batch of toxoid, and I am left with this position, that every single one of 60 animals exhibited the same idiosyncrasy.

Mr. Sutton used some words, derived from some of his learning in the past, which rather appealed to me. He talked of the joint method of agreement and difference, and I think it does very well explain the great difficulty presented by the theory of anaphylaxis—that every one of 60 animals that had had this toxoid administered to them exhibited these symptoms, and not a single one of them escaped, and every single one of the animals that did not have this particular batch of toxoid administered to them—those that were inoculated with the earlier batch—escaped. Every single one of those that were inoculated with the later batch suffered. I think the coincidence is altogether overwhelming in its effect. Again, Dr. Grace, who was called by the fourth party, I think, said "Sixty out of 60 would be a new thing in our experience of anaphylaxis." I think, not only on the evidence a new thing, but so strange a thing that it stretches my credulity too far to ask me to say that it in fact occurred.

Accordingly, having done, I hope, full justice to all Mr. Gerrard's points, I am convinced in my own mind beyond a shadow of a doubt that these symptoms which were observed in the cattle were caused by something wrong in the toxoid and not by something wrong in the cattle.

In those circumstances I turn to consider what are the legal results. First of all, I might clear the ground by saying that as between the defendants and the third party, and again as between the third party and fourth party, it is admitted that the provisions of Section 14 of the Sale of Goods Act, 1893, apply, and it is of course further admitted that if therefore this toxoid was not reasonably fit for the purpose for which it was required, namely, the purpose of inoculating cattle, the defendants can have recourse to the third party for compensation in respect of any damage caused to them by reason of the breach of the implied condition, and equally the third parties can have recourse to the fourth party. Where the dispute arises as regards law is with regard to the position of the plaintiffs as against the defendants.

The plaintiffs rest their claim against the defendants upon an alleged express warranty, or, alternatively, an alleged implied warranty. There is nothing in the statement of claim to support a claim based upon negligence by the plaintiffs against the defendants, and indeed Mr. Sutton in opening the case, expressly disclaimed any intention of making on behalf of his clients any allegation of negligence against the defendants. There is, therefore, no question of such a claim as was the subject matter of the well-known case of Donoghue and Stevenson.

I may add that the third party and the fourth party also have disclaimed any suggestions of negligence against the defendants, who as professional men have the satisfaction of knowing that no one concerned in this case has made the slightest imputation with regard to anything which they did in the matters which have been the subject of this investigation.

As regards an express warranty, the plaintiffs rely solely upon the conversation which I have already detailed, and I think I can deal quite shortly with the contention. In the first place, having regard to all the circumstances of the relationship between the parties and the surrounding circumstances generally of the interview in question, I entertain very great doubt whether the words used by Mr. McWilliam to Mr. Dodd can be construed as involving any promise at all. When Mr. McWilliam was cross-examined by Mr. Sutton he was asked about this interview and he said this: "We advised Dodd to make use of this treatment. I did say I could not guarantee it would prevent or cure, but I could say that it would do no harm. I meant I could take it upon myself to say that it would do no harm." Then Mr. Sutton asked, "Was that part of your advice?" and the witness's answer was: "Yes."

It seems to me that that puts the conversation in the proper light. I think that the conversation was a conversation in which the veterinary surgeon gave advice to his client, and I feel very grave doubt indeed as to whether what the veterinary surgeon said to his client, Mr. Dodd, was intended to have any contractual effect.

As I understand, the test of whether a statement is intended to have contractual effect is whether upon the evidence it appears to have been so intended, but even if I were satisfied that the statement was intended to have contractual effect, I most certainly do not take the view that it amounted to a promise that the treatment would not harm the cattle even if the toxoid used for the purpose of the inoculation were improperly prepared. It seems to me that it would be far too strong to hold that Mr. McWilliam, by saying what he did say, was expressly promising that.

Accordingly, in my view, the claim by the plaintiffs against the defendants, in so far as it is based upon express warranty, would fail. I have not dealt with this aspect of the matter more fully, however, because it becomes irrelevant if I come to the conclusion that the claim based upon an implied condition ought to succeed.

Mr. Gerrard has contended very vigorously before me that if I were to decide the question of implied condition in favour of the plaintiffs I should be, to use his own phrase, making new law. I do not agree that I should be making new law, but I do agree that no authority which has been cited to me is precisely applicable to the facts of this case.

Only two cases have been cited which need my attention. One of them is the case of *Myers and Brent Cross*, 34, 1 *K.B., p.* 46, and the other is a case of *Watson and Buckley*, 1940, 1 *All England Reports, p.* 174. The latter judgment was one delivered by my brother Stable at Manchester Assizes, and the greater part of the judgment was devoted to aspects of the matter other than the point which I am now considering. I am glad to find that my brother's conclusion is the same as that at which I intend to arrive, but there is not very much discussion or explanation of that particular point in that particular case.

Now it is agreed that inasmuch as the contract between the plaintiffs and the defendants was not a contract of sale, Section 14 of the Sale of Goods Act, 1893, has no application. It is to be observed, however, that what Section 14 does is to exclude in the case of a contract of sale any implied warranty or condition as to the quality of fitness for any particular purpose of the goods, save in so far as such implied warranty or condition is expressly provided by the Section. When, therefore, one says that a particular contract is not a contract of sale, and that the previsions of Section 14 therefore do not apply, one is not saying that the implied warranty or condition mentioned in Section 14 is therefore not applicable. One has to go back to the position apart from the statutory provisions, and without going too deeply into the history of the matter I think it is common ground that in the case of a sale of goods there was established at common law an implied warranty or condition as to quality or fitness before ever there was a Section 14 of the Sale of Goods Act, 1893.

There are two ways, as I understand it, of looking at implied conditions, and sometimes views differ as to which is the true basis of an implied condition. If I may take for an example the doctrine of frustration, I think an examination of the cases will show that in some judgments of great authority the view was taken, before the recent Act, that the doctrine of frustration depended upon an agreement between the parties which the court could discern and assume, and was not expressed merely because the parties thought it unnecessary to express it.

If that be the basis upon which a condition is to be implied, one has to bear in mind, of course, the test laid down by Lord Justice Scrutton in (if I may venture to quote the cases from memory, because I have not got them here) *Lazarus and Cairn Line* 17 *Commercial cases*, the page of which I do not remember, and *Reigate and Union Manufacturing Company*, which I think was reported in 1918, 1 *K.B., at p.* 592.

The other basis upon which an implied condition is sometimes justified is that it is implied as a matter of law because lawyers have thought it right to imply it from consideration of the justice of the case. That is an explanation of the doctrine of frustration which found favour in certain judgments and which I think has found favour with the legislature, inasmuch as they have passed the recent Act.

I mention that because exploring here, as I am to some extent, new ground—and, Mr. Gerrard would say, very dangerous ground—I think it helps me to look at the matter from both points of view. I therefore ask myself: Supposing, when Mr. Dodd was discussing the matter with Mr. McWilliam, Mr. Dodd had said to Mr. McWilliam, "Will you undertake that this stuff which you are going to put into my cows will be perfectly safe; will it be all right?" would Mr. McWilliam have said, "Of course; that goes without saying"? Well, I think he certainly would have done so. He was the person who was going to get the stuff and he alone was the person who knew where it was coming from. He was the person to know whether Willington Medicals Ltd. were a reliable and reputable firm; he was the person who was going to make the bargain with Willington Medicals Ltd. for the supply of the stuff; he was the person who would have a remedy against Willington Medicals Ltd., if, in colloquial language, they let him down; and I really feel no doubt in my mind at all that if Mr. McWilliam had been asked, "Can you assure me? Can you guarantee that the stuff you will use for this inoculation will be all right?" he would have said, "Of course. What do you suppose? That goes without saying."

Then there is the other way of considering the matter, and it is this. As I understand it—and Mr. Gerrard made all the concessions which logically he thought he ought to make, with his usual frankness—as I understand it, if Mr. McWilliam had recommended to the plaintiffs this toxoid, of which I hold a packet in my hand, and if he had then supplied sufficient of this toxoid to inoculate the 60 sows and had charged the plaintiffs for the toxoid, but if he had left the administration of it to be carried out by the plaintiffs themselves, he would unquestionably have been liable if the stuff had proved not to be reasonably fit for the purpose for which it was required, or, to put it more shortly, if it had, as I think it did, poisoned the cows.

Here there can be no doubt at all that the plaintiffs did make known to the veterinary surgeons the particular purpose for which the goods were required. There can be no doubt that they made it known so as to show that they relied on the skill and judgment of the veterinary surgeons. If, therefore, there had been a contract of sale, as far as I can see there could have been no question but that the defendants would have come under the liability resulting as described by Section 14 of the Act.

Again, if the veterinary surgeons had rendered a bill, in pursuance of the contract which they had made, charging for the cost of the toxoid used in one item and charging for their services in injecting that toxoid in another item, it seems to me that Mr. Gerrard would have had very great difficulty in arguing that they escaped from liabilities corresponding to those imposed on sellers under the Act, and what Mr. Gerrard is driven to arguing, as it seems to me, and as I think he concedes, is this, that if, in addition to recommending the use of this toxoid, and in addition to supplying six bottles of this toxoid for use, the veterinary surgeons themselves inject it, that has the result of lessening their liability to the client, in this case the plaintiffs.

I can see no reason why it should. Since I first began to appreciate the issues in this case I have been hunting, both by myself and with the assistance of counsel, for a reason, and I think if I could have seen a really good reason why, by doing more, by becoming further implicated, if I may use that expression, they could lessen their liability, Mr. Gerrard's argument might then have prevailed, but it seems to me that justice certainly does not require that by taking upon themselves the administration of the substance, in addition to recommending and supplying it, they thereby in some way succeed in lessening their liability. It might, of course, increase their liability if their method of administration were improper, which no one suggests in this case, but how can it lessen it?

Finally, before I leave the law, I look at the case of Myers and Brent Cross to which I have already referred. As I have said, I do not think that that case is directly applicable to this case, but there are certain passages in it upon which Mr. Sutton relies, and I think perhaps I might usefully refer to one or two of them.

First of all there is a passage cited by Lord Du Parcq (as he now is) from the earlier case of Francis and Cockerell, Law Reports, 5 Q.B. 501, the citation being at page 51 in the case of Myers and Brent Cross. Chief Baron Kelly said this:—

> "I do not hesitate to say that I am clearly of opinion as a general proposition of law that when one man engages with another to supply him with a particular article or thing to be applied to a certain use and purpose in consideration of pecuniary payment, he enters into an implied contract that the article or thing should be reasonably fit for the purpose for which it is to be used and to which it is to be applied."

"Now it is to be observed," says Lord Du Parcq there, "that the learned Chief Baron is applying to a contract which is not a contract technically for the sale of goods, words which we are accustomed to hear applied to a contract for the sale of goods."

> "That," says the learned Chief Baron, continuing, "I hold to be a general proposition of law applicable to all contracts of this nature and character."

Now Mr. Gerrard's argument, if I may refer to it once more, would seem to be that to the Chief Baron's proposition there must be added this exception:—

> "I do not hesitate to say that I am clearly of opinion as a general proposition of law that when one man engages with another to supply him with a particular article or thing to be applied to a certain use and purpose, in consideration of pecuniary payment, he enters into an implied contract, *unless he not only supplies the article, but applies it to the particular use and purpose himself.*"

I can see no reason for that addition or that exception, and indeed I am somewhat strengthened in my view when I find that during the argument of counsel for the defendants in Myers and Brent Cross Lord Du Parcq remarked, "The distinction, if you are right, appears very artificial."

I have therefore come to the conclusion that in this case it was an implied condition of the contract between the plaintiffs and the defendants that the substance to be used for the inoculation should be reasonably fit for the purpose for which it was required, of inoculating the plaintiffs' cattle against summer mastitis.

I come to the conclusion, further, that upon the evidence that condition has not been fulfilled, and that accordingly the plaintiffs can recover damages against the defendants, and the defendants in turn can recover from the third party what they have to pay, with, no doubt, certain costs, and similarly the third party from the fourth party.

Now I come to the only remaining question, which is the question of damages. As regards the effect of this toxaemia upon the herd there has really been no dispute. Two of the cows were killed and one had to be sold as a casualty. Further, the effect upon the cows was very serious in that some of them aborted, some of them were rendered sterile, and the illness which the inoculation produced also in my opinion unquestionably affected very seriously the milk-producing capacity of the cows.

The plaintiffs' claim for damages was drawn up by a certain Mr. Jefferson, who on September 15th, 1945, examined twelve cattle and was given information about two which had died, and he valued those 14 beasts. On March 7th, 1946, he went again and valued 15 barren cows, and finally on April 5th, 1946, he made a comprehensive inspection and valuation.

It will be observed that even his first visit was a long time after the catastrophe—two months after the catastrophe—and his comprehensive inspection and valuation, which is the basis of the claim before me, was not made until as long after the catastrophe as April 5th, 1946. He puts the various figures of the claim under certain heads, to which I must in a moment refer.

The claim has been criticized severely, and I think not unjustly, by counsel in their final speeches. I think it is fair to both sides to make one observation with regard to that. Bound up with the pleadings supplied to me was a copy of this valuation, which covers, I think, ten pages, the first eight pages dealing one by one with the 60 beasts, and dealing with various aspects with regard to them in ten columns.

When a judge sitting at assizes is faced with eight pages, each containing ten columns—and on computation I could make it an even larger number of columns—his first reaction is likely to be that at any rate the question of damages is unfit for decision by him. I was rather invited to take that view by Mr. Gerrard and I was rather disposed to take that view, and I cannot help feeling that it was very largely for that reason that, in order to encourage or even persuade me to try the case, the whole of the counsel concerned to dispute the claim—that is to say, counsel for the defendants, the third party and the fourth party—refrained from going into the details of the claim in the way that they otherwise might have done, and, similarly, counsel for the plaintiffs refrained from going into them, because I think he thought that if he did start going into these multifarious details he would have been driving the case, so to speak, away from this particular judgment seat.

In the result, however, the information I have got about the claim seems to be decidedly scanty. The first heading of the claim is with regard to the difference between the value of the cattle immediately before inoculation and the value of the cattle, not immediately after the inoculation, but on April 5th, 1946. In the first place, if one looks at the summary, one finds Mr. Jefferson estimates a sum of £256 9s. 8d. as damage sustained in respect of the loss of the three cows, two of which died and one of which was sold as a casualty. Mr. Jefferson is a man of great experience and reputation. Tested in certain ways his figures seem to be very well justified, and I see no reason why I should reject his evidence that the three cows which were lost were of that value.

Then he deals with the loss of 24 calves. He attributes a value of £20 to heifer calves and of £1 10s. to other calves. There were altogether 24 calves lost, because they were either aborted dead or died soon after birth, and in respect of those 24 animals he estimates the plaintiffs' loss as having been £102 10s. Those items were not, I think, challenged, or not seriously challenged, and I see no ground for rejecting them.

Then he estimates that there was a depreciation in the value of 15 cows and heifers amounting to £860 5s. 9d., and in the value of the remainder of the herd amounting to £1,099 11s. 7d. Now there are two possible lines of attack on those figures. The first would be to say that the value of the cattle before inoculation was overstated in Mr. Jefferson's valuation. Of that it seems to me there is no evidence at all. Mr. Jefferson's evidence is uncontradicted. The cross-examination, to my mind, left him quite unshaken, and I accept his evidence that the prices he put upon these cattle were moderate prices.

The other line of attack would be to allege that his figure for present values was too low. That to some extent can be tested by the fact that since he made his valuation nine of the beasts have been sold. Their realization has been proved before me and I think in every case they realized less than Mr. Jefferson's figure, except in three cases, I think, where they realized the same, but certainly none of the nine cows realized more than Mr. Jefferson's figure. Then included in those items was the actual selling price where the beast had been sold at the time of Mr. Jefferson's valuation. I think, therefore, that I ought to accept those figures.

There is one further figure which is not challenged by anyone, and that is a figure of £113 10s. for the valuer's fees. That item, as I understand it, is conceded by the defendants, the third party and the fourth party.

Now I come to deal with the two remaining figures in the claim, and I will deal with the easier one first. There is a column headed "Cost per cow in extra care, food and attention during sickness." I am quite satisfied that the cows did need extra care, food and attention during sickness, and I am quite satisfied that would be a substantial item, but this column seems to me to be on the face of it rather misleading, because the figures placed against these cows have no relation to the amount of extra care, food and attention that a particular cow in fact required. When the plaintiffs were asked for further particulars they merely replied by saying, "Look at the valuation," but the valuation in fact does not disclose the true basis. The true basis, as I now know, is that Mr. Jefferson took an arbitrary figure of 5 per cent. on the pre-inoculation value of the herd, which according to him was £4,330, and he said, "If we allow 5 per cent. on that for extra care, food and attention that will be about right," and then for some reason which I do not understand he distributed that total, £221 17s., among the individual animals.

A bill has been produced before me for 50 guineas for veterinary treatment, and I think that something ought to be allowed for overtime worked by the herdsmen, and other matters, but having regard to the very unsatisfactory way in which that item is arrived at, I think if I allow 100 guineas under that head it will be enough. Mr. Aronson, representing the fourth parties, suggested it, not necessarily as the right figure, but as a reasonable compromise to meet the criticism which he made, and I think I ought to accept that figure of £105.

I now come to the item which has given me most trouble of all. One of the columns in the valuation is headed "Estimated loss in milk yield in gallons," and I am told that how Mr. Jefferson arrives at that is, that first of all he says that when a cow is sick its milk production will fall off. That seems to be something which cannot be and is not disputed. Then he says, "From my experience, from the milk records and from what the herdsman told me I know what has been the normal output of milk of each of these cows." There has been a good deal of criticism about that from the third and fourth parties. They comment on the absence of proper milk records and say that the herdsmen ought to have produced any records that they might have kept. It seems to me, however, that any experienced herdsman may very well know, without making any written record, what is the approximate milk yield of each cow, and I think an experienced gentleman like Mr. Jefferson, working with the herdsmen for the purpose, might very well arrive at a reasonably accurate estimate of what a cow would have yielded in milk and how far that milk yield is likely to be affected by its ailing condition.

I should have explained that the lactation period in respect of which this claim is made is the winter lactation period, which runs from the end of September to the beginning of April.

Accordingly, although I recognize that criticisms made of the figures are by no means unnatural, I feel I ought to accept the estimate of loss in milk yield in gallons put forward by Mr. Jefferson.

Then he turns that gallonage into pounds, shillings and pence in a column headed "Value of loss in milk." In point of fact, as I understand it, the Milk Marketing Board, who were, of course, the sole purchasers under present conditions, paid more for the milk from Lower Lightwood Green Farm, because that came from a T.T. herd, than they paid for the milk from Buerton Hall Farm, but Mr. Jefferson took an average figure, and as a gross figure I do not think that has been successfully challenged, but it has been suggested that what the plaintiffs lost was a net figure, because against the gross figure they would have to set off certain overhead expenses.

As to that, I simply have no evidence at all. The point was not, I think, put to Mr. Jefferson. He was not cross-examined about it and I have no evidence at all to show me that the plaintiffs saved money, which they would otherwise have spent, because the

cows in question were only producing half or three-quarters or a quarter of what they would have produced if they had been well. I do not profess to know anything about it myself, and I have simply no evidence on the matter, and therefore, although with some hesitation, I feel I ought not to make a deduction from that figure, "Value of loss of milk."

There is still, however, one point which has given me a great deal of trouble in regard to this aspect of the claim. At one time I was disposed to think that the claim in respect of loss of milk overlapped with the claim in respect of depreciated value of the cows, but I observe that the "Valuation for cow" is as at April 5th, 1946, and Mr. Sutton has contended before me that the claim is analogous to a claim which might be made by a man who, we will say, has had his arm broken by a tort of someone else. Mr. Sutton says that in such a case he can claim for the loss of earnings which has resulted from his inability to use his arm up to a certain time, and he may further claim compensation in respect of the fact that the arm, even when healed sufficiently for use, is not as good an arm as it was before, and Mr. Sutton says on that analogy he can claim here both for the milk lost during the lactation period which ended by April 5th, and also for the depreciation in the value of the cows which was observed and evaluated by Mr. Jefferson on April 5th. I feel considerable doubt about it, but I think on the whole Mr. Sutton has persuaded me as to the correctness of that argument. He has, however, conceded that in certain cases the claim in respect of the loss of milk should not be maintained.

Which cases were they, Mr. Sutton?

Mr. Sutton: I will hand your Lordship the figures. (Handed.)

Mr. Justice Hallett: They are the cases where some of the cattle were sold prior to the valuation; that is to say, the cases which appear in the column of the Valuation headed "If sold, selling price." I should perhaps have mentioned that the first item there, £75, has got into the wrong column. It should have been in the "Present value" column, that being one of the cows which was sold after the valuation.

Now there are nine cases where a cow was sold prior to the valuation, and the amount claimed in respect of milk with regard to those nine, according to a Table which has just been handed to me, amounts to a total of £397 12s. That amount must therefore come off.

Mr. Gerrard: My Lord, I make the total figure of the Judgment £3,341 18s. 6d.

Mr. Justice Hallett: Thank you. I will just do it myself, because if I do that it will serve as a check.

Mr. Gerrard: It has been checked by my instructing solicitor, my Lord, who gets the same answer, and I am told it is agreed by the other side.

Mr. Justice Hallett: Very well, if you have agreed on it. That is Judgment for £3,341 18s. 6d. for the plaintiffs against the defendants, with costs. Is there any question about that, Mr. Davies?

Mr. Edmund Davies: No, my Lord.

Mr. Justice Hallett: Now the defendants against the third parties; is there anything you want to say about that, Mr. Gerrard?

Mr. Gerrard: No, my Lord, but I think my friend has something to say.

Mr. Edmund Davies: I should ask, my Lord, for Judgment against the third party for £3,341 18s. 6d. and costs, and for the usual Order in these cases for my own costs of defending the plaintiffs' action on the basis of solicitor and client.

Mr. Justice Hallett: First of all, you ask for what you have to pay the plaintiffs?

Mr. Edmund Davies: Yes, my Lord.

Mr. Justice Hallett: That seems clear.

Mr. Edmund Davies: I also ask for my own costs of defending the plaintiffs' action on the basis of solicitor and client, and Judgment for those two items against the third party, with the ordinary party and party costs.

Mr. Justice Hallett: You mean, costs of the third party proceedings?

Mr. Edmund Davies: That is so, my Lord.

Mr. Justice Hallett: What do you say about that, Mr. Gerrard?

Mr. Gerrard: There is an authority for that Order, my Lord, and I do not think I can dispute that, because my friend is entitled to an indemnity from me.

Mr. Justice Hallett: Would you mind giving me the reference?

Mr. Edmund Davies: I have it here, my Lord. It is *Kasler and Cohen*, 1928, 1 KB. It is under Order XVIa, Rule 10. It is page 325 in the White Book.

Mr. Justice Hallett: I have *Simpson v. British Industries Trust*, not Kasler, in a note to Maxwell.

Mr. Edmund Davies: Yes, my Lord, there is a later case than Kasler in the White Book also.

Mr. Gerrard: Your Lordship sees the practice note there with regard to it.

Mr. Justice Hallett: Very well, Mr. Gerrard. What is your next step?

Mr. Gerrard: I want the same thing against the fourth party, my Lord, *mutatis mutandis*.

Mr. Justice Hallett: Yes. What do you say about that, Mr. Aronson?

Mr. Aronson: Only this, my Lord, that the costs of all parties are entirely in the discretion of your Lordship, and it is so provided in the rule my friend has just cited. Now in this case, on the facts as your Lordship has found them, the plaintiffs might have sued me, with success, and I should have had to pay their costs, but because they have gone about it in this very roundabout way, I find myself saddled with this terrific burden of the costs of three different parties.

Mr. Justice Hallett: I do not think you can necessarily assume that. I did myself at an early stage rather indicate that I wondered whether they could not have based a claim on negligence against you—or it was you, I think, who expressed a view that they clearly could have done so, or somebody did, I think, in the final speeches, but I simply did not apply my mind to the point. I had to deal with the case as it was framed. I am only saying that. I am neither agreeing nor disagreeing with you, Mr. Aronson. I had quite enough to decide in this case without deciding something which did not arise, as to whether, supposing the case had been framed in that way, the plaintiffs would have succeeded.

Mr. Aronson: Yes. I am not asking your Lordship to decide anything of that sort, but as the facts have been found it would be extremely difficult to differentiate this case from the beer bottle type of case. If the plaintiffs had sued me, as they might have done on that state of the facts, they would have recovered against me with costs and that would have been the end of my liability, whereas because of the course they have pursued I am saddled with a tremendous burden of costs, paying not only the costs of my opponent but his solicitor and client costs against Mr. Davies and Mr. Davies's solicitor and client costs against the defendants.

Mr. Justice Hallett: I think it could have been arranged, if you had wanted to avoid that. You see, it was quite unknown until these proceedings were under way that Willington Medicals Ltd. had not manufactured the stuff, and I think it could have been arranged if your clients had said, "Well, we entirely deny there was anything wrong with the stuff, but if there was we accept responsibility."

Mr. Gerrard: We offered not to bring proceedings against the fourth party if they would indemnify us.

Mr. Aronson: That, of course, we could not accede to.

Mr. Justice Hallett: Well, I did not know that, but it seems to me that if either you or the third party had said to the plaintiffs, "We are not blaming the defendants in any way, and if it should turn out, contrary to our contention, that this preparation unfortunately had gone wrong, we will accept entire responsibility," then assuming that you were people of substance, and worth powder and shot, and they said, "Oh, no, we are going to have the lot in," you would have had a very strong case, but I have no reason to think you did anything of the kind.

Mr. Aronson: No, we did not. We were never in touch with the plaintiffs at all. We were only in touch with Willington Medicals Ltd.

Mr. Justice Hallett: You know, in point of fact Mr. Gerrard was doing so much before you got in and before you had your innings that in fact he was, in his own interests in the case of his own client, doing the biggest part of the fighting. Mr. Davies was trying to maintain a position of uneasy neutrality rather, on instructions, and Mr. Gerrard was perforce, in the interests of his own client, doing most of the fighting, and I do not know why you did not agree to indemnify Mr. Gerrard's clients.

Mr. Aronson: As the thing has worked itself out Mr. Gerrard has done most of the fighting, but if my client had not been here—

Mr. Justice Hallett: What I mean is, your interests and Mr. Gerrard's were so closely identified in this particular case that if you had been third party and he had been fourth party you would have been doing all the fighting. It is just a question of who came first.

Mr. Aronson: Yes. The only difference in our positions is that he can pass the burden on to me, and there is no one to whom I can pass the burden. I have to bear it myself.

Mr. Justice Hallett: I do not think I see anything unreasonable in the course they have taken in the circumstances of this case, and in those circumstances I do not see why they should not recover. You see, I want to give full attention to it, but your real complaint, if I may put it that way, must be against the third party. It is the third party who are getting the order against you.

Mr. Aronson: Yes, my Lord.

Mr. Justice Hallett: And I do not see what complaint you can have against the third party. They offered not to proceed if you would indemnify them, and they are the only party asking for this order for costs against you. Why should they not get it?

Mr. Aronson: My Lord, of course the whole thing is in your Lordship's discretion. You can make any party pay any other party's costs.

Mr. Justice Hallett: Yes, it is quite true it is at my judicial discretion, but what has the third party done or not done which should lead them to bear part of the costs?

Mr. Aronson: Nothing at all, my Lord. I am making no allegation against the third party.

Mr. Justice Hallett: I cannot say I will not give them their costs because I do not like Mr. Gerrard's face, or because he has talked too much! It is not true, and if it were true it would not be a good reason. I must have some reason.

Mr. Aronson: If your Lordship pleases. I cannot take it any further.

Mr. Justice Hallett: There must be something in the conduct of the third party to justify me in giving them less than their full measure of costs, and I cannot see it.

Mr. Aronson: If your Lordship pleases.

Mr. Justice Hallett: Very well. I think it is rather a difficult order for the learned Associate to draw up. I did not spell it out as fully as I might have done because I did not think there was any possibility of misunderstanding. Would somebody be responsible for helping the Associate if he wants it?—not as regards the plaintiffs' Judgment. That is straightforward enough, but when it gets to the third and fourth parties it would be a good thing if someone would look at it, and if there was any difficulty it would have to be mentioned to me.

Mr. Gerrard: If anybody wishes it, a draft Order can be drawn up and submitted for approval, my Lord.

Mr. Justice Hallett: Yes. I am not asking for that to be done because I do not think there is any doubt as to what it should be, but it is a little complicated to express, and I should like the Associate to have any assistance he might want in expressing it.

NEWMARKET BLOODSTOCK SALE RECORDS

Remarkable figures for bloodstock were recorded at the December Newmarket sales, when the first three days saw the record figure of 503,215 guineas set up, the aggregate for Wednesday of 292,100 guineas being the highest ever recorded for any one day of any sale in Great Britain. On the opening day the top price was 8 500 guineas for "Fragrant View," a half-sister to "Airborne," and 12,000 guineas given on the second day for the nine-year-old mare "Ankara." On the Wednesday Mr. J. Jarvis gave 14.500 guineas for "Avena," a ten-year-old mare by "Blandford," and 9,200 guineas was paid for "Hyphon," a nine-year-old by "Hyperion." The top prices on the Thursday were 6,100 guineas for the two-year-old filly "Fair Morn" by "Fair Trial," 7,200 guineas for the ten-year-old mare "Wave Length" by "Fairway," 7 100 guineas for "The Golden Girl," a four-year-old mare by "Hyperion." and 6.000 guineas each for "Bellacosette," a six-year-old mare by "Sir Cosmo," and "Rustic," a four-year-old colt by "Nearco." In all, during the five days of the sales, 863,330 guineas was paid for 776 lots, an average of 1,112 guineas.

The importance of the bloodstock industry from the export trade point of view was fully demonstrated (comments the N.H.A. Horse Owners' *News Sheet*) as a considerable number of foreign buyers were present, and the various bloodstock agencies were very active on behalf of their overseas clients.

Leading Sires of Winners in 1946

(1) Lord Derby's "Hyperion," 34 winners of 63½ races, value £54.021.
(2) Lady Zia Werner's "Precipitation," 15 winners of 25½ races, value £30,141.
(3) Lord Derby's "Fairway," 20 winners of 44½ races, value £20,844.

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Ten pure-bred Friesian cows, valued at £500, belonging to Mr. G. H. Cook, Ivy House Farm, Ketteringham, Norfolk, have died from yew poisoning. They were among a number that broke out of a meadow and into a plantation. This is the first such case in Norfolk for many years, says *The Farmer and Stock-Breeder*.

Questions and Answers

The submission of questions for inclusion in this column will be welcomed: they can relate to any aspect of veterinary work. For purposes of record, each question is numbered, and those submitting questions are required to furnish (not for publication) name and address.

Answers to readers' queries represent exclusively the personal opinions of the writers, and criticism of the replies will be appreciated.

All communications should be addressed to the Editor.

Penicillin Diluent in Intramammary Infusion

Q. CLXXXI.—*Is there any evidence regarding the optimum quantity of diluent for penicillin in the intramammary infusion of dairy cattle affected with mastitis?*

A.—The published evidence on the volume of diluent necessary to produce optimal results in penicillin therapy of bovine mastitis is limited. The volume administered has been selected principally to conform with ease of application and in general much smaller volumes have been infused than was the practice when the flavine dyes were in current use.

Byrne *et al.*,[1] reported that a dose of 40,000 units administered on three occasions in 100 ml. sterile saline gave a 91 per cent. recovery compared with 83 per cent. when 250 ml. diluent was employed. Almost the same results were obtained by the A.R.C. group of workers in sterilizing *Str. agalactiae* infection though the dose of penicillin was 20,000 units and the volume infused was 50 ml. sterile distilled water.

The experience of the writer in the use of this dose and volume was that the milk yield was slightly reduced and the character of the fore-milk made abnormal in early latent cases of infection. By experiment, it was found that even a small volume of 50 ml. sterile distilled water was capable of producing a mild catarrhal reaction in normal udders and for this reason further trials were carried out with a volume of diluent reduced to 10 ml. The success in effecting bacteriological recoveries following the use of two daily injections of 20,000 units in 10 ml. sterile distilled water has been of the same order as that reported by most authors using larger volumes of diluent, and no adverse effect on the milk yield and character of the secretion was noted. Furthermore, from a study of the penicillin concentration in the milk twelve hours after injection it would appear that the drug is just as rapidly distributed and absorbed from the smaller volume of 10 ml. as from larger volumes.

It must be pointed out, however, that in the treatment of cases of acute mastitis due to staphylococci and other organisms where the secretion is considerably altered and suppressed and the quarter indurated, it is probably an advantage to use a larger volume of diluent in order to favour more immediate contact of the penicillin with organisms within the secretory tissue. In comparative trials with various volumes of diluent, Schalm and Casselberry[2] found that penicillin dissolved in 100 ml. of sterile distilled water gave the best results in marked clinical cases.

REFERENCES

[1]Byrne, J. L., Pullin, J. W., & Konsk, H. (1946.) *Canad. J. comp. Med.* **10.** 16.
[2]Schalm, O. W., & Casselberry, N. H. (1946.) *J. Amer. vet. med. Ass.* **109.** 445.

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Penicillin and Milk

Q. CLXXXII.—*Would the addition of penicillin to milk increase its keeping qualities or help towards its sterilization?*

A.—A "yes" or "no" answer to this question is not possible. Penicillin in fairly low concentration will inhibit the growth of *Str. lactis* and other milk-souring streptococci. Since this organism is most often responsible for souring during warm weather, it may be said that penicillin would be likely to prolong the life of the milk if the milk-souring organisms were the only ones present. But this is not so. Most milk contains coliform organisms in greater or lesser numbers, and if these and other Gram-negative organisms such as *Pseudomonas* are present they will constitute the majority flora in the absence of competition from the acid formers, and the milk will be spoilt, with unpleasant results. On the whole, therefore, the respondent would not advise the use of penicillin for the purpose envisaged: if milk should be infected with organisms insusceptible to ordinary concentrations of penicillin, *e.g.*, the Salmonellas, there may be actual danger of selective active growth and infection of the consumer.

It should be said that it is not permitted to add anything to or subtract anything from milk for sale.

Congenital "Night" Blindness (so-called) in Irish Setters

Q. CLXXXIII.—*In view of the recent publicity given in the canine press to the subject of so-called "night blindness" in Irish setters, can you inform me:—*

(a) *What are the early symptoms, diagnostic features and prognosis in an active case of the disease?*

(b) *Between what ages does it usually become recognizable?*

(c) *What is the Kennel Club ruling on the age at which a litter from a test-mating may be declared free from active signs of the disease and the suspect parent considered genetically sound?*

A.—The condition in Irish setters, colloquially and misleadingly referred to by the term "night-blindness," is due to an autosomal recessive gene and therefore appears only in the animal which is duplex for the recessive factor, *i.e.*, the recessive homozygote. The heterozygotes which are simplex for the factor and which in popular parlance are referred to as "carriers" have normal powers of vision and are indistinguishable by examination from the dominant homozygotes. Heterozygotes are liable to transmit the recessive factor to their progeny and to produce setters showing the condition. Most actively afflicted setters are in fact bred by the mating together of two "carriers."

The spread of the factor through the breed has been due to extensive line breeding to a bitch whelped about 20 years ago. She was a heterozygote. To-day more than 90 per cent. of the show Irish setters are descended from her on at least one, and often on several lines. Her descendants have been exported abroad and thereby the disease has been introduced into other countries, *e.g.*, U.S.A., Canada, Ireland, Holland, etc. The condition receives the name of "night-blindness" because it is at night-time that the first symptoms of visual disturbance are noticed.

It is usually possible to pick out the actively afflicted pups in a litter during the third month by observing their behaviour in a dimly lit space where the floor is littered with obstacles. Such pups will display a reluctance to move and when they can be induced to move they will progress hesitatingly, usually with their noses to the ground, and will fail to avoid the obstacles. It is important that this test should be carried out when the pups are not reluctant to move from some other cause, *e.g.*, after a heavy meal and on ground which is strange to them. Even a pup displaying the condition will frequently move freely and avoid obstacles in its own run. Those who are familiar with the disease can pick out affected puppies as early as six or eight weeks of age merely by observing in a suitable light a green pupillary reflex in contrast to a golden green of a normal subject. This green reflex is more readily appreciated in affected dogs because in these animals dilatation of the pupil is an accompanying feature.

The Kennel Club has recently made new regulations designed to help eliminate the disease from the breed. The effect of those regulations is that, subject to the proviso mentioned below, since August 8th any Irish setter which itself has, or one of whose parents had, a proved "tendency to reproduce the disease" has been ineligible for registration or transfer at the Kennel Club. This means that if a known heterozygote is used for breeding none of its progeny can be registered or exhibited and if a homozygote is bred from, all its descendants of the first and second generation will suffer from the same embargo. This embargo will be lifted if any setter produced by a proved carrier is subsequently proved by test-mating not to carry the genetic factor for the disease. By test-mating, or what the geneticist calls "backcrossing," is meant the mating of a suspected heterozygote to a homozygote, that is to say to a setter showing the condition. Provided the litter is a reasonable size, say at least six puppies reared to testing age, if it contains no case of the disease the suspect can be considered free of the factor, *i.e.*, a non-carrier, and can be registered. The appearance of even one actively afflicted puppy is sufficient to confirm the suspicion and the animal being tested can be considered a proved carrier. As already stated, it should be possible to test the pups to discover whether any are actively afflicted during the third month.

The disease has also been called "retinitis pigmentosa" because this disease in man generally commences with night-blindness. Retinitis pigmentosa in man is associated with degenerative changes in the choroid with migration of pigment from the pigment epithelium into the more superficial layers of the retina. Magnusson quoted by Gray ("Veterinary Ophthalmology"—Nicolas) is supposed to have seen this migration of pigment in a "night-blind" Gordon setter. Although the writer has encountered and had the opportunity of examining a number of affected Irish setters in various stages of the disease, he has not as yet seen any evidence of melanotic pigment in the tapetum lucidum area of the fundus and believes the term "retinitis pigmentosa" to be a misnomer. This view is supported by Jacob ("Diagnose Und Therapie der Inneren Krank-heiten des Hundes").

The writer perceives the condition as a progressive optic atrophy resulting in complete blindness at any time between the ages of one and four years. Breeders associate cataract with the condition, but the writer believes this to be an independent lesion. In the blind dog diagnosis by ophthalmoscopic examination of the fundus and optic papilla is relatively easy, but to the uninitiated the initial stage of the disease, when sight is defective only in darkness, can easily escape recognition.

The characteristic feature is a gradual diminution of size of the retinal vessels. These vessels lose their vigorous red colour to become pink and gradually paler. They become more and more attenuated until when atrophy is more or less complete they are limited to the optic disc region and are thread-like. Finally, the venous circle of the optic papilla is lost and the latter is a pale cream colour in contrast to the pinkish or flesh colour of the normal disc. In absolute atrophy the dog is completely blind and the pupil is invariably permanently dilated. It is the decreased volume of the retinal vessels coupled with the tendency to dilatation of the pupil which provides the characteristic green pupillary reflex so well known to breeders.

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Incidence of Retinitis

Q. CLXXXIV.—*Is retinitis, or a condition in which there are patches of retinal atrophy leading in some cases to complete blindness, common in golden Labradors: or is the condition a peculiarity of certain strains?*

A.—The writer is not in a position to say that retinal atrophy is common in golden Labradors, but cases have been met by him in both golden and black Labradors. He believes the disease to be substantially the same as that passing under the name of "night-blindness" in the Irish setter but so far, in the Labrador, sufficient evidence has not been collected to suggest that the condition is heritable or that consanguinity is a noticeable factor.

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Correspondence

Haemoglobinaemia and Haematuria of Bovines

Sir,—It is evident from the recent question and answer on the above subject that some confusion exists regarding the differentiation of these syndromes in cattle.

For some three years parturient haemoglobinaemia has been under investigation by this department in association with Moredun Institute. From our observations parturient haemoglobinaemia in the north of Scotland would appear to resemble closely a similar condition described by American workers. Two main hypotheses respecting aetiology have been suggested by those workers based on pathological and experimental studies. In brief these are:

1. An acute aphosphorosis following parturition.
2. An enterotoxaemia due to the elaboration of a bacterial toxin.

So far, our investigations have not adequately confirmed either of these hypotheses. While the intravenous injection of phosphates brings about a spectacular clinical response with a strong reticulocytic increase it is to be noted that quite a considerable number of acutely affected animals recover of their own accord showing exactly the same clinical features during recovery. Although the greater number of investigations in this country have been directed along the lines of possible metabolic upset, the possibility of enterotoxaemia cannot be overlooked. In support of this belief the demonstration by Taylor & Gordon (1940) of the presence of *Cl. welchii* type A in the intestine of apparently healthy bovines is of significance.

The influence of dietetic factors on the incidence of the disease is regarded also as of some importance.

In Scotland the appearance of the disease is thought to follow closely upon the intensive use of turnips in the feeding of cattle. While it is true that our clinical data show that the disease is invariably associated with turnip and straw feeding the exact importance of these data is difficult to assess in view of the widespread use of those crops as a winter diet in Scotland. The significance of turnips in association with the condition has long been the belief of practising veterinarians in the north of Scotland. George Howie (personal communication) points out that in the serious outbreaks at the end of last century, his father obtained excellent control of the disease by boiling the turnips before feeding. This and other observations led to the belief that haemolytic substances probably of a saponin nature were implicated. In 1945 samples of turnips and turnip tops from a farm on which haemoglobinaemia was prevalent were prepared at the Rowett Research Institute. The extracts of these turnips and tops were tested in this department *in vitro* in serial dilutions against bovine red cells and also as intravenous inoculations in rabbits. No haemolytic

changes *in vivo* or *in vitro* were observed. Although it is readily admitted that those tests cannot be regarded as conclusive, they at least indicate that if turnips possess a haemolytic factor, this is probably of complex structure. The association of parturition with the disease is difficult to correlate with the theory that turnips possess such a haemolytic factor. It is also worthy of note that our statistics on the clinical aspect show that 99 per cent. of the cases recorded have been animals which show some evidence of the original native Scottish strain in their genetical composition.

Our pathological investigations show the condition to be a typical haemolytic jaundice. The typical blood picture taken from our records of acute cases is as follows:—

Hb (Haldane)	R.C.	W.C.	Haematocrit	Van den Bergh
30 per cent.	2·2	8·8	13	+

Marked punctate basophilia, reticulocytosis, and other anaemic changes are commonly seen in blood smears. The differential leucocyte count shows an increase in the polymorphonuclear leucocytes. Fragility readings are usually higher than one would expect, ranging from 0·55 per cent. to 0·65 per cent. It has been suggested that the reason for this may be the fact that all but the most resistant cells are haemolysed.

The gross pathological changes are constant and are most obvious in the liver and kidneys. The former is usually yellowish olive in colour, and friable; the latter are dark chocolate in colour and pulpy. *Macroscopic changes in the urinary bladder have not been observed.* Histologically the liver presents the changes associated with toxic effects. There is a well-defined central necrosis of the lobule with a peripheral fatty infiltration. Degenerative changes of the epithelium of uriniferous tubules and the presence of detritus are always evident. The glomeruli show no decrease in number or capsular distension. Haemosiderin is deposited in considerable quantity in the spleen and to a lesser extent in the kidneys.

In informal discussion with our English colleagues who have investigated the condition of haematuria in Wales, our information suggests that the condition there is a distinct and different entity from parturient haemoglobinaemia. In haematuria the blood picture fails to show the extreme changes observed by us. The fact that the condition is not associated with parturition and the constant urinary bladder lesion offer positive comparative evidence that the two conditions are distinct.

Although we have so far failed to demonstrate any obvious relationship between the mineral content of pasture and parturient haemoglobinaemia the possibility of this factor influencing the causation of haematuria appears to the writer to be worthy of investigation. Australian workers (1940) have associated the occurrence of haematuria in bovines with pasture containing molybdenum in excess of normal amounts. These workers have observed the condition in pastures containing capeweed and meadow hay with a molybdenum content of 8 p.p.m. D.M. In this connection it is of interest to note that Bankier (1945) observed in British Columbia that the application of gypsum to the pasture appeared to control the incidence of haematuria in bovines grazing on the pasture. Our information regarding haematuria suggests that the condition is of comparatively recent origin. If this be the case, the association of intensive liming of pasture should be a valuable statistical guide in an investigation into the aetiology of haematuria.

In investigations carried out by us in Caithness the statistical evidence associated the occurrence of clinical "teart" on pastures heavily limed. Bearing in mind the comparatively low molybdenum content of the pastures in the Australian areas of enzootic haematuria the possibility of this train of events being associated with haematuria seems more than a speculative point.

North of Scotland College of Agriculture, Yours faithfully,
Veterinary Laboratory, S. Jamieson.
Mill of Craibstone,
Bucksburn, Aberdeen.

REFERENCES

Bankier, J. C. (1943.) *Canad. J. comp. Med.* **7**. 101, 146, 178.
Counc. Sci. Indust. Res. Austral. (1940.) 14*th Ann. Rep.*
Taylor, A. W., & Gordon, W. S. (1940.) *J. comp. Path.* **50**. No. 2.
Howie, G. (1944.) Personal Communication.

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Stilboestrol in Misalliance (*Q. & A. CLXXX*)

Sir,—The use of stilboestrol in doses of 50 milligrammes has been used successfully in the treatment of misalliance in the bovine, when given within two or three days of service

A better method is to express the fully developed corpus luteum about ten days after service.

Neither method is reliable except in the early stages.

Yours faithfully,

49, Cambridge Street, L. Guy Anderson.
Aylesbury, Bucks.

QUESTIONS IN PARLIAMENT

Conditions in Slaughterhouses

Mr. Norman Bower asked the Minister of Food if he is aware of the disgust caused by recent revelations regarding the conditions prevailing in slaughterhouses; if he will give permission to local authorities to construct slaughterhouses where humane slaughter can be carried out efficiently; and also state his policy generally with regard to this matter.

Sir W. Smithers asked the Minister of Food whether, in view of the fact that the number of slaughterhouses has been reduced, he will now take steps to increase the number where humane slaughter can be carried out efficiently.

Mr. George Jeger asked the Minister of Food whether he is aware of the widespread complaints about the condition of slaughterhouses; and what he proposes to do to improve them.

Mr. Beechman asked the Minister of Food whether the Government have yet formulated a national policy for slaughterhouses; and whether such a policy will be announced as soon as possible, to enable local authorities and others concerned to make the necessary arrangements.

Mr. Lipson asked the Minister of Food if he is aware of the widespread concern at the cruel conditions under which cattle are slaughtered in many parts of the country; and what action he proposes to take to remedy the evil.

Mr. Symonds asked the Minister of Food if he is aware of the public concern about the conditions in which animals are killed in slaughterhouses under the control of his Ministry; and what steps he is taking to ensure that the law is strictly enforced.

Mr. Strachey: I am aware that letters have appeared in the Press containing allegations of cruelty in the slaughtering of animals for human food. The provisions of the Slaughter of Animals Act, 1933, are complied with by the slaughtering contractors employed by my Department and I am satisfied that there is no justification for the sweeping accusations which have been made. I am well aware of the need for new and better slaughterhouses. But I fear that I cannot expect to get a very high priority for them in the building programme. As to long term policy, I cannot at present add to the reply given to my hon. Friend the Member for Southampton (Mr. T. Lewis) on November 18th, 1946.

Mr. Lipson: Will the right hon. Gentleman take action to see that when cattle are taken to the markets and slaughterhouses, they are conveyed by transport and not allowed to go along the roads in present conditions, which involve a good deal of hardship and cruelty?

Mr. Strachey: I will consider that.

Mr. Assheton: Would the Minister pay a visit to some of the slaughterhouses?

Mr. Strachey: I will consider that suggestion.

Sir R. Glyn: Will the Minister consider giving a licence to more of the original slaughterhouses, because it is due to congestion caused by the limited number of slaughterhouses that this sort of thing takes place?

Mr. Strachey: I will consider that point.

At a later session Mr. Touche asked if the Minister of Food was aware of the public anxiety at the conditions prevailing in many slaughterhouses; and whether he would encourage local authorities to provide slaughterhouses where humane killing could be efficiently carried out.

Dr. Edith Summerskill: I am aware that letters have appeared in the Press containing allegations of gross cruelty in the slaughtering of animals, but I am satisfied that they are not justified as regards slaughterhouses generally. I am unable to encourage local authorities to erect new slaughterhouses until the Government's long-term policy on slaughtering has been decided. We are now working on the plans and they will be discussed with the various interests concerned as soon as possible.

Errata.—Q. CLXXIX—"Caesarean Section *versus* Hysterectomy" (*Vet. Rec.* **59**. 32). The first paragraph of the answer should read: "The duration of labour prior to operation is the main factor in deciding between caesarean section and hysterectomy in small animals." The penultimate paragraph should read as follows: "In an occasional case in category 3, *i.e.*, over 48 hours, caesarean hysterectomy will almost certainly be the operation of choice because of gross putrefactive changes; but due to a foetus being firmly wedged in the uterine body and vagina, section may be impossible without first undertaking hysterotomy for removal of the obstructing foetus. In such a case, despite infection of the uterus, it may be wiser to perform hysterotomy only, since the prolonged operation and severe surgical shock if this is followed by hysterectomy will almost certainly cause death."

Milk and Dairies Regulations

Mr. Sharp asked the Minister of Agriculture whether the inter-departmental committee which has been considering proposals for the revision of the Milk and Dairies Regulations has now submitted recommendations, particularly in respect of the much-needed reduction of bovine tuberculosis and what action he is taking; or what is the reason for the delay and when he anticipates being in a position to make the necessary amendments.

Mr. T. Williams: My hon. Friend is under a misapprehension. No interdepartmental committee has been appointed for the purpose he describes, but officers of the Departments concerned are discussing what provisions might be included in the regulations which my right hon. Friend the Minister of Health and I are empowered to make under the Food and Drugs Acts, 1938 and 1944. The regulations cannot be made until the appointed day under the Food and Drugs (Milk and Dairies) Act, 1944, which I am not yet in a position to announce. Measures to secure a reduction in, and the ultimate eradication of, bovine tuberculosis are outside the scope of these regulations, but proposals on that subject will shortly be discussed with farming interests.

NOTES AND NEWS

Diary of Events

Feb. 3rd.—Meeting of the Farmers' Club, at the Royal Empire Society (Craven Street Entrance), W.C.2, 2.30 p.m. [Col. The Rt. Hon. Walter Elliot, M.C., M.P.: "An Agriculturist's View of Economics."]

Feb. 6th.—General Meeting of the Central Veterinary Society, at the Conway Hall, Red Lion Square, London, W.C.1, 2 p.m.

Feb. 7th.—Annual General Meeting of the Yorkshire Division, N.V.M.A., at Leeds (Metropole Hotel), 2.30 p.m.

Feb. 11th.—Meeting of the Dumfries and Galloway Division, N.V.M.A., at Castle Douglas (Douglas Arms Hotel), 2 p.m.

Feb. 12th.—Meeting of the Editorial Committee, N.V.M.A., 36, Gordon Square, W.C.1, 2.30 p.m.

Feb. 13th.—Meeting of the N.V.M.A. Parliamentary and Public Relations Committee, 36, Gordon Square, W.C.1, 11 a.m.

Feb. 18th.—71st Annual Meeting of the Eastern Counties Division, N.V.M.A., at Norwich (Royal Hotel), 11.30 a.m.

Feb. 19th.—Meeting of the Section of Comparative Medicine, Royal Society of Medicine, at 1, Wimpole Street, W.1, 5 p.m.

Feb. 20th.—Meeting of the Society of Veterinary Practitioners, at York (Station Hotel), 2.30 p.m.

Feb. 22nd.—Meeting of the Society of Women Veterinary Surgeons, at Liverpool (Veterinary Hospital, Pembroke Place), 2.15 p.m.

Feb. 26th.—Annual General Meeting of the South-Eastern Division, N.V.M.A., at Maidstone (Royal Star Hotel), 2.30 p.m.

Feb. 28th.—Special Meeting, N.V.M.A. General Purposes and Finance Committee, 36, Gordon Square, W.C.1, 10 a.m.

July 28th—Aug. 1st.—N.V.M.A. Annual Congress in Edinburgh.

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New Appointments to the Staff of the Ministry of Agriculture

As notified in recent issues, Council, N.V.M.A., has decided that no advertisements for appointments to the veterinary staff of the Animal Health Division of the Ministry of Agriculture shall be accepted for *The Veterinary Record* pending the settlement, in a manner satisfactory to the Association, of the question of the status and salaries of the Veterinary Officers of the Division.

In the meantime, any members of the profession who may, nevertheless, contemplate applying for such posts, should these be advertised elsewhere, are requested first to communicate with the General Secretary of the Association at 36, Gordon Square, London, W.C.1.

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Salary Scales of the Whole-time Veterinary Officers of the State Veterinary Service

In the final paragraph of the Supplement of *The Veterinary Record* of January 25th, we stated, *inter alia*, that unestablished veterinary inspectors suffer disadvantage in length of annual leave. We understand that as a result of representations made by the Association of Veterinary Inspectors on this point it has now been decided that temporary veterinary inspectors will, after three years' continuous service, be entitled to the same length of annual leave as established veterinary inspectors.

Recent Questionnaire to Divisions

Honorary Secretaries of Divisions who have not yet replied to the General Secretary's letter of December 23rd are asked to treat the matter as one of urgency. They are reminded that, should they require further copies of the questionnaire for circulation to their members, these are available, on request, from 36, Gordon Square, London, W.C.1.

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Sale Rules Relating to Contagious Abortion

These rules as reproduced in our issue of December 14th, 1946, pages 600 and 601, have now been adopted by the English Ayrshire Cattle Breeders' Association for animals in its shows and sales.

In the case of *males* the rules will become operative for all the Association's sales held on or after January 1st, 1948, and in the case of *females* for those animals born on or after June 1st, 1947.

A leaflet setting out the rules and containing an explanatory note is obtainable by members of the profession on application to the Secretary, English Ayrshire Cattle Breeders' Association, 19, Bloomsbury Square, London, W.C.1.

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R.C.V.S. CENTRAL LIBRARY FOR ANIMAL DISEASES

Resumption of General Services

We are glad to be able to inform our readers that, as we learn from Professor G. H. Wooldridge, Chairman of the Library Committee, R.C.V.S., it has now been possible to reinstate much of the College Library at 9 and 10, Red Lion Square, W.C.1, and it has been decided to resume the general services of that Library to members of the profession and others wishing to consult books and periodicals. The Library is now open from the hours of 10 till 1 and 2 till 5 Mondays to Fridays inclusive, with the exception of those days when the quarterly meetings of Council are being held. It may be necessary also to close the Library during staff holiday periods. To avoid any inconvenience an announcement to that effect will be made in *The Veterinary Record* as occasion arises.

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Hill Farming Advisory Committee

(England, Wales and Northern Ireland)

Announcement is made that the Minister of Agriculture and Fisheries has constituted the Advisory Committee for England, Wales and Northern Ireland to advise him on the exercise of his powers under the Hill Farming Act, 1946, and has appointed the following to be members of the Committee for a period of three years from the date of appointment: The Earl of Huntingdon (Chairman); His Grace the Duke of Northumberland; Major C. A. M. Alexander, M.C., D.L., J.P.; Mr. J. V. Allen; Mr. L. Y. Dent; Mr. C. Kenyon, J.P., M.P.; Mr. David Lewis, M.B.E.; Mr. Harry Lewis; Professor W. C. Miller, M.R.C.V.S., F.R.S.E.; Mr. C. G. Muir; Professor J. E. Nichols, M.Sc., PH.D., F.R.S.E.; Professor Robert Richards, M.P.; Mr. T. Robins, J.P.; Mr. R. Donald Scott; Professor R. W. Wheldon, D.Sc., F.R.S.E.; Mr. W. Wilson and Lieut.-Col. J. C. Wynne Finch, J.P.

Mr. H. E. Bannister has been appointed to act as Secretary to the Committee, and all communications should be addressed to him at the Ministry of Agriculture and Fisheries, Block 4, Bickenhall Mansions, London, W.1.

The Chairman, Earl Huntingdon, is Joint Parliamentary Secretary to the Ministry of Agriculture and Fisheries, and the Duke of Northumberland, who has special interest in hill farming, was a member of the Hill Sheep Advisory Committee for England and Wales appointed in 1945 to advise, among other things, on legislation to implement the recommendations of the two Committees of Enquiry into the Hill Sheep Industry. The profession will be glad the Committee includes a distinguished veterinarian in Professor W. C. Miller, a Past-President of the N.V.M.A. Until recently Courtauld Professor of Animal Husbandry at the Royal Veterinary College, he is now Director of the Veterinary Education Trust Equine Research Station, at Newmarket. He has had considerable experience of the health problems of sheep, and he, too, was a member of the Hill Sheep Advisory Committee for England and Wales. Disappointment will be felt, however, that the Committee includes no member of the profession from Northern Ireland. Professor J. E. Nichols has been concerned in scientific investigations connected with sheep fertility and development and the production and use of wool. From 1935 to 1939 he was Professor of Agriculture in the University of Western Australia. He was until recently Director of the Imperial Bureau of Animal Breeding and Genetics at Edinburgh and is a member of the Wool Fibre Research Committee of the Wool Industries Research Association. He is Professor of Agriculture (Animal Husbandry) at the University College of Wales and is at present

carrying out a survey of hill sheep breeding methods and practices in Scotland and the North of England for the Hill Farm Research Committee of the Scottish Agricultural Advisory Council. Mr. R. Donald Scott is a landowner and farmer in the hill farming area of Northumberland and has had wide experience of hill farming problems. He was Joint Parliamentary Secretary to the Ministry of Agriculture and Fisheries from May to July, 1945, and subsequently Assistant Agricultural Adviser to the Minister of Agriculture. He was Chairman of the Hill Sheep Advisory Committee for England and Wales. Professor Wheldon is Head of the Department of Agriculture, King's College, University of Durham. He was a member of the Committee on Hill Sheep Farming in England and Wales under the Chairmanship of Earl De La Warr and is a member of the Hill Farm Research Committee of the Scottish Agricultural Advisory Council.

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R.C.V.S. OBITUARY

Broadhurst, Ormonde Shedden, Capt. late R.A.V.C., of "The Croft," 31, Colbert Avenue, Thorpe Bay, Essex. Graduated London, July 18th, 1912. Died January 26th, 1947; aged 60 years.

Lloyd, Glyn, D.S.O., F.R.C.V.S., Colonel R.A.V.C., Barrister-at-law. Graduated Liverpool, December 19th, 1914. Died January 16th, 1947; aged 55 years.

Slocock, Sydney Lawrence, M.C., F.R.C.V.S., Major R.A.V.C. (R. of O.), Temp. Brigadier, A.V. and R.S. Graduated London, December 18th, 1912; Fellowship May 13th, 1916. Died January 25th, 1947.

The death of Brigadier Sydney L. Slocock, who passed away on Saturday last in Guy's Hospital, will be widely mourned in the profession. Further reference will be made in an early issue.

Colonel Glyn Lloyd, D.S.O., F.R.C.V.S.

It is with profound regret that we announce above the death, which occurred suddenly, whilst returning home from Austria, of Colonel Glyn Lloyd, Deputy Director of Veterinary and Remount Services, British Troops in Austria, who, in December last, was nominated for the appointment of Controller, Veterinary and Remount Section, Control Commission, Germany. Colonel Glyn Lloyd was a Fellow of the Royal College of Veterinary Surgeons and an examiner for the Membership Diploma. In addition to his veterinary qualifications he was a barrister-at-law, having been called to the Bar by Gray's Inn in June, 1933.

Colonel Lloyd, who graduated at the Liverpool Veterinary School, was at one time President of the Guild of Undergraduates of the University. He was the son of the late Mr. and Mrs. Hugh Lloyd, of Liverpool, and a nephew of the late Mr. Thelwall Thomas, a Liverpool surgeon.

His military career, in which he gained great distinction, commenced in the year of his qualification, 1914, when he was commissioned as Lieutenant in the Special Reserve of the R.A.V.C. He saw service in various theatres of war and secured rapid promotion; in 1917, as a Temporary Major, he was appointed D.A.D.V.S. to the 10th Division in Salonika. He was twice mentioned in Despatches and was awarded the D.S.O. in June, 1919. Subsequent overseas service at this period included command of No. 8 Veterinary Hospital, Cologne (1921), and as D.A.D.V.S. British Upper Silesian Force.

On returning to the United Kingdom in 1922 he was appointed Veterinary Officer in charge of the Equitation School at Weedon. After a tour of duty in India and subsequent home service in the Aldershot Command and at Colchester, he again went overseas as Command Veterinary Officer, Gibraltar, being recalled at the end of 1937 to take up the appointment of Assistant Director of Army Veterinary Services at the War Office, where he remained until March, 1943.

On arrival at the Middle East in May of that year, he assumed the appointment of A.D.V. & R.S., 9th Army in Palestine, and in January, 1944, was posted to G.H.Q., Middle East, as D.D.V. & R.S., and now with the acting rank of Colonel. In 1945 he proceeded to Austria and was due to take up his appointment in Germany last month. He was promoted Substantive Lieutenant-Colonel in March of last year.

Colonel Glyn Lloyd married Miss Olga Roberts, daughter of the late Mr. Robert Roberts, J.P., and Mrs. Roberts, of Sefton Drive, Liverpool. One of their sons, Flying Officer Geoffrey Lloyd, was killed while flying two years ago. To the bereaved we extend the deepest sympathy in their further grievous loss.

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PERSONAL

Appointments.—The appointments in the Colonial Veterinary Service are announced of Mr. E. G. Barnes, M.R.C.V.S., as Veterinary Officer, Nyasaland, and Mr. G. Calderbank, M.R.C.V.S., as Veterinary Officer, Nigeria.

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Retirement of Mr. Marmaduke Clarkson, J.P., M.R.C.V.S.—The retirement is announced of Mr. Marmaduke Clarkson, who has practised in the Swaledale district, latterly at Satron, for nearly half a century. Born at Reeth, Mr. Clarkson opened his practice there in 1891 after a time in Herefordshire. A prominent Methodist, Mr. Clarkson has been a member of Reeth Circuit for many years, and has held every office open to a layman except that of local preacher. In 1915 he was made a magistrate and sat at the Gilling West Court, Richmond, until last year, when he was placed on the supplemental list.

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Birth.—McLaren.—On January 23rd, 1947, at Welshpool, to Rita and Jack McLaren—a daughter.

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RABIES: SECOND CASE IN QUARANTINE

The Ministry of Agriculture and Fisheries reports a second death from rabies within six weeks. This second case of disease occurred in a bitch which, having been imported into this country from India on December 12th, was in isolation in approved kennels at the time of its death. It exhibited no symptom or suspicion of rabies at the time of its importation, but on January 9th it showed signs of illness and died three days later. *Post-mortem* examination by the Ministry's officers revealed that the bitch was affected with rabies which it must have contracted before being landed in this country.

There is no connection at all between the two cases. The two dogs which have died recently in this country from rabies had no contact with each other and were kept in quarantine in different places.

These deaths show how important it is that dogs from abroad should not be allowed to enter this country except on condition that they are placed in quarantine immediately on arrival and kept there long enough to cover the incubation period of the disease.

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VETERINARY COUNCIL OF IRELAND ANNUAL DINNER

On January 13th the Veterinary Council of Ireland held, in Dublin, its first annual dinner since pre-war days.

Senator Sean O'Donovan, proposing the toast "Public Health and Agriculture," said that the health of the people and the prosperity of the agricultural industry, through the maintenance of a healthy livestock population, were the two objects for which they existed as a profession and for which they had given, and would continue to give, unsparingly of their energies. They felt, however, that in both spheres of activity their services had not been availed of to full capacity and, indeed, that, in some cases, their energies had been misdirected through no fault of their own. He hoped that when Dr. Ryan introduced his new Public Health Bill he would give the veterinary profession its rightful place in the supervision of the nation's food supplies.

Dr. J. Ryan, the newly appointed Minister for Public Health, responding, said that it had been estimated that they suffered a loss of something like £5,000,000 a year through disease of animals, and if the veterinary profession was put in the position to prevent disease among animals, it would confer a great economic benefit on that country. In building up agricultural and public health in the country the veterinary profession had a great part to play, and he believed they would live up to their responsibilities.

Referring to the Emergency Agriculture Committee, Dr. Ryan said that the Minister for Agriculture had agreed with the evidence put forward by members of the profession, which had laid down a certain scheme of organization for the profession to deal with public health. The Minister for Public Health had disagreed with that scheme, but the Minister for Agriculture was almost certain to adhere to his opinion. There was hope that the scheme might see the light of day in the near future, and they might get the veterinary profession to go ahead with the task laid down for them. The scheme set out that a territory would be allotted to a veterinary surgeon where he would be responsible for the prevention of disease in animals, and the cure of disease, in so far as there could be co-operation between himself and the farmer, and the care of food in the area for consumption by humans.

He was glad to see the arrangements made between the Veterinary College and the Dublin universities regarding veterinary study. They were on the way in that country to expand research. The Clondalkin farm would, in the next few years, be one of the best veterinary institutions in the world.

It was true that there was not enough butter, cheese and milk in the country, but they were not as badly off as most countries. They were at present consuming more butter than they did before

the war, and they were also consuming as much liquid milk per person as the U.S.A. and more per person than Britain. They had not nearly as great a consumption of milk as some of the small European countries, but it was going up. An abundant production of foods of animal origin at a price satisfactory to the producer and consumer would constitute one of the greatest contributions to the health of their people.

Professor J. P. Drew, proposing the toast of "The Veterinary Profession," said that none of the professions had made the same relative progress in the past 25 years as the veterinary profession. The recent joining of the veterinary profession with the other professions was adding greatly to the prestige of the universities.

It had been estimated that losses due to livestock disease were around ten per cent. of the total value of their meat, poultry and dairy produce. That was a colossal figure.

Professor W. Kearney, president of the Veterinary Council, who presided, responding, said that the chief reason for the lack of appreciation and utilization of the profession in the past had been that there was not sufficient known about the recent development in the science of veterinary medicine by the farming community, and even by those in authoritative posts in the Government.

The toast of "Our Guests" was proposed by Mr. P. J. Howard, Ennis.

The Lord Mayor (Alderman McCann, T.D.), responding, congratulated the profession on establishing courses in veterinary medicine at the two Dublin Universities. The Dublin Corporation, he said, were as proud of their veterinary service as of any other of their city services, which could not be equalled anywhere.

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VETERINARY EDUCATIONAL TRUST

Dr. W. R. Wooldridge, Scientific Director of the Veterinary Educational Trust, has stated that hysteria and distemper in dogs will become the two priority subjects for investigation when the new Canine Research Station is established by the Trust.

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In connection with the groom-training scheme to be instituted at the Equine Research Station of the Veterinary Educational Trust, at Newmarket, the Trust authorities stress the fact that appreciating the present-day high value of all equine stock, it is desirable that the proper management of such animals should be in the hands of the most competent and best qualified men. These new courses of instruction should prove of educational use to grooms engaged in every phase of horse breeding, feeding and rearing.

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ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Foot-and-Mouth Disease:

Derbyshire.—Parkfield House, Offcote, Ashbourne, Derbyshire (Jan. 25th).

Dorset.—Sawmills Farm, Hazelbury Bryan, Dorset (Jan. 19th); Marriott's Farm, Halstock, Yeovil, Dorset (Jan. 20th); Higher Combe Farm, Rampisham, Dorchester (Jan. 21st); Sutton Hill Farm, Iwerne Minster, Dorset (Jan. 23rd); Common Farm, Evershot, Dorchester, Dorset (Jan. 24th); Throop Farm, Frampton, Dorset (Jan. 24th); Home Farm, Holywell, Evershot, Dorchester, Dorset (Jan. 25th); Burl Farm, Holywell, Evershot, Dorchester, Dorset (Jan. 26th).

Hunts.—Manor Farm, Spalding, Huntingdonshire (Jan., 19th); A. E. Church, Ivy House Farm, Spaldwick, Huntingdonshire (Jan. 24th).

Somerset.—Warwick Arms, Clutton, Bristol, Somerset (Jan. 25th); Tynemore Farm, Clutton, Bristol, Somerset (Jan. 26th); Yeovil Road Buildings, Halstock, Yeovil, Somerset (Jan. 28th).

Wilts.—Idover Demesne Farm, Dauntsey, Chippenham, Wilts. (Jan. 26th).

Sheep Scab:

Lancs.—Brook Farm, Blowick, Southport, Lancs. (Jan. 18th).

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The Functions of the University

For his Presidential Address to the Association of University Teachers, at Leeds, last year, Professor C. B. Fawcett, of the University of London, took as his theme "The Functions of the University." The address was published in the November 19th, 1946, issue of *The Universities Review*, issued by the Association (Vol. 19, No. 1), and, in view of the special interest which the subject now holds for veterinarians, it is reproduced below.

We have been so much engaged during the last few years in considering the organization and future of our universities that it is with some hesitation that I propose to refer once more to this topic. My excuse must be that, after having been in many of these discussions, both in this Association and in some other bodies, I feel that it may be useful to attempt a summary statement, not of the proposals for the better fulfilment of the functions of our universities, but rather of what those functions are. For this I limit myself to the universities with which we are most directly concerned, the modern universities and university colleges of England and Wales. Some universities may not admit responsibility for all the functions to be mentioned; but all of them are carried on, to some degree, in the universities of this group.

These functions may be summed up under the following six headings:—

1. To form a local community of students and teachers.
2. To give a "liberal" education, intended to make the student a more developed person and a more valuable citizen. and/or
3. To give a more specialized training designed to fit the student to take up some one particular profession, or to take up research.
4. To extend the bounds of knowledge.
5. To be a centre of intellectual illumination and of culture.
6. To be an effective unit in a world-wide "fraternity of learning."

I have not put down these headings in any order of relative importance; and there is a very wide extent of overlap among them. The division, and the order, is a matter of convenience for discussion.

1. It is in a community that the university can, and does, most effectively educate its members. The students normally spend in this community three or four of their most important growing years. Here they get opportunity for endless and unending discussions, for the give and take of disputation and argument, for criticism and comment on ideas and suggestions and customs and principles, which is at its best a vigorous intellectual exercise and a vital part of a liberal education for a democratic people. In lectures and laboratories and by reading the student may "get knowledge" of a large number of facts and opinions. It is by reflection on and discussion of these, by argument about it and about, that he may also "get understanding."

Here the influence of the community is necessarily far greater than that of any one reader. So that in this part of a university education the residential institution has a clear advantage. A non-residential university may do much, through common rooms and unions, student societies, games, hostels and other means, to foster this active mutual self-education. To do all that can be done in this direction is an urgent duty; since without it there can be little real education of our students as members of a society. But in the ideal state all universities will be residential for the great majority of their undergraduates.

2. The second function I have listed is to give a liberal education. By this I mean an education which is directed towards the development of the student as a person—both as an individual human being and as a member of a civilized society. The primary function of all organized education of the young is, as it has always been, to fit them to become acceptable members of the adult community. The aim of developing the individual personality seems to have been acknowledged much later; and it is still a secondary purpose, for education is a social function.

One of the best definitions of a complete education was given 300 years ago by John Milton in his *Tractate on Education* as that "... which fits a man to perform justly, skilfully, and magnanimously all the offices, both public and private, of Peace and War." (Note that two of his three adverbs refer to moral qualities.) That definition is a statement of an ideal. It was written before our age of intense specialization; and we can hardly now expect one man to be able to perform all these offices.

3. Professional training.—It seems to me that the distinction between a liberal education and a vocational training is often more a matter of aim and method and spirit than of content. The distinction is akin to that between research in pure and in applied science, to which I shall refer later. But our universities have all, from their very beginnings, been concerned with professional training. In this the modern universities have repeated, at a different stage in the development of our civilization, the history of older universities. It is true that their professional schools were long limited to those of Divinity, Laws, and Medicine; but even their Arts faculty was professional in that it was largely concerned with the production of teachers, and of administrators for the embryo civil service of medieval and renaissance governments. There was little, if any, suggestion of the pursuit of knowledge for its own sake, or of the development of the student as an individual person.

In our modern universities the Faculty of Medicine is far more important than it was in the older ones. For the rest our professional schools are more prominently associated with other "applied" sciences, in Faculties of Engineering, of Commerce, of Technology, of Agriculture, and so on. But it is difficult to state clearly any principle which would justify the study of law and

theology and at the same time discountenance the study of technology and administration. The difference is rather that before the development of science, which has made the modern world, the men of learning and "culture" could repudiate the "base mechanic arts"; while now we know that the maintenance of our lives and our civilization demands the study and investigation of the sciences on which those arts are based, a study which has removed the term "base" from our references to mechanics.

So far it may be noticed that three of my six sections have been directly concerned with what the university is to do with and for its students. This seems reasonable; for the students who go out from it into the world are the chief product of the university. It is by them and their influence on the rest of the general community that we shall in the long run be judged. The general opinion of the universities and of their value to human society, and so the support they receive from that society, depends mainly on the influence of those of their former students who are now playing an active part in the work-a-day world.

May I, in passing, refer briefly to the relations between these two functions (2 and 3). The liberal education is, I hold, the more fundamental one. It is necessary for the good citizen; and I would regard it as also an essential foundation for a sound professional training. Without it we cannot make more than technicians. This is, surely, what is meant by all those of us who object to a too early specialization in studies; for that makes it impossible to study any wide range of human thought and achievement, during the most impressionable years. When we plead for the avoidance of such early specialization in schools we are in fact asking for a broader foundation of a liberal education. On such a foundation it becomes possible for the professional training itself to be also an extension of that education.

There is some acknowledgment of this need where, in many of our universities, as here in Leeds, training in applied science is clearly and firmly based on an adequate knowledge of the relevant pure sciences. The principle should be applied consistently throughout all our professional schools.

4. The fourth function in my list is "to extend the bounds of knowledge." This is more commonly referred to under the name of research, now almost as blessed a word as "Mesopotamia." I would include the critical and appreciative study, and the interpretation and re-interpretation, of older work in literature and history, in science and philosophy, as well as that search for new knowledge of fact and the development of theory which is more usually meant by research.

That research in the narrower of these two senses is a function of the university is not denied by anyone. In fact, it is now so strongly impressed on the public mind that there is more danger that it may be thought of as the only, or at least as overwhelmingly the most important part of their work.

Research in the wider sense of the word is indeed a vital function of the university. Even for the teaching research is essential for no teacher can be effective at the university level unless he himself takes part in the advancement of knowledge. The inspiration which comes from direct contact with the advancing frontier of knowledge is necessary to maintain the vitality of any university.

A distinction may be, and often is, drawn between what is termed fundamental or pure research and applied research, particularly in the natural sciences. The distinction was recently expressed very clearly by Sir Richard Gregory and Professor A. G. Tansley at the Conference on Scientific Research and Industrial Planning. "Pure Science, or fundamental research[1] is pursued for the sole purpose of arriving at truth and acquiring fresh knowledge." While "Applied Science is science which is used for the purpose of solving problems of practical importance."

If we accept such a distinction then we can have no doubt that the pursuit of pure, or fundamental, research is a prime duty of the university, though we may have some doubts as to the position of applied research. The latter may be provided for and carried on in the research laboratories of industry or of government departments, both of which are chiefly concerned with research for the purpose of finding solutions to problems of more or less immediate practical importance. It is only, or at least mainly, in the universities that we can hope to provide facilities for, and encourage, the pursuit of knowledge for its own sake; that is, without the search being dominated by the urge to solve some immediate practical problem or to gain immediate profit. The knowledge attained by such fundamental research is, of course, often the basis for later applied research; while questions which can only be answered by research in pure science arise in the course of the applied research. These facts tend to blur the boundary between pure and applied.

Here also it may be noted that fundamental research and thought must be the work of individuals. "Applied" or practical research can often be carried on by a team of workers under a single direction. New ideas come to individuals. As Einstein has said: "One can organize to apply a discovery already made, but not to make one. Only a free individual can make a discovery."[2] Here is the justification for the complete freedom of research. It is of course true that in giving freedom to many persons to carry on such research we shall make, as we have made, some mistakes in the appointments; and there will be some failures. But if we do not give real freedom to the research worker we reduce, and may completely destroy, the possibility of obtaining the new discovery. Such freedom, together with favourable working conditions, can now be given in our universities; and it should be one of our chief aims to maintain this position.

I have said that every university teacher should be in touch with, and take part in, research. This, of course, is an ideal rather than a statement of present-day fact; but it is an ideal which should be a strong influence in the development of our universities. It has a direct relevance to the tendency to establish separate research institutes for some subjects, of which I may mention the London Institute of Historical Research as one example. What are the effects of this partial (or complete) separation of the research activities from the teaching work of the university on the latter? I have no time now to discuss this; but it is a matter which deserves consideration from all who are concerned with the future of research and of the universities.

5. Another function of the university is to be a centre of illumination and culture for its region, and to play a part in the maintenance of the wider community of learning. In practice this is to a small extent organized in the extra-mural activities, in various courses for persons other than the students, including refresher courses. But probably the most important work of the university in this respect is much less formal, and it cannot be closely organized. It rests on the contacts of its members with other people, on their life and work as citizens of the wider community. If they isolate themselves from the rest of the world then, by so doing, they abdicate this function. The most useful suggestion here seems to be that they should not withdraw from the world into an academic seclusion, but should take pains to preserve contact. Most of our modern universities are in large cities, which are often the regional capitals of the surrounding provinces; for them it is natural and comparatively easy to maintain contact with the intellectual life of the community. The university ought to be a principal focus of such life.

6. And lastly, the university should be, quite consciously, a unit in the worldwide fraternity of learning. This is as wide as our civilization, and the range of sympathy and intercourse of the university should be no less. The very name university suggests the widest possible range of interests. No knowledge is alien to it; and no one who is able and willing to share in its life and work should be denied access.

In conclusion I would sum up the functions of our universities by quotation from two of them. The University of Leeds has taken as its motto: *Et augebitur scientia* (Let knowledge be increased). This should, and does, imply both an increase in the amount of knowledge and its extension among more people: both research and teaching. The "bidding prayer" of Oxford prays for the university . . . "that there may never be wanting a succession of persons duly qualified for the service of God in church and state."

Here we have clearly set out the claims of pure knowledge and of professional training, and the duty of service.

[1]London, December 7th and 8th, 1945. See *The Advancement of Science*, Vol. III, No. 12, April, 1946. Ref. on pp. 286 and 294.

[2]Ibid., p. 308.

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THE BRITISH MEDICAL JOURNAL

Dr. Hugh Clegg Succeeds Dr. Gerald Horner as Editor

Dr. N. Gerald Horner retired under the age limit from the editorship of the *British Medical Journal* at the end of 1946, and was succeeded by Dr. Hugh Clegg who joined the *B.M.J.* in 1931 and became deputy editor three years later.

Voicing the regret felt by his departure by all who have benefited by his able editorship, *Nature* refers to the increasing preoccupation of the occupant of such a post with the health and well-being, not only of the people of Great Britain, but also with that of great and harassed populations elsewhere, and adds: "If, indeed, we seek a measure of the achievement of Dr. Horner, we shall find it in the fact that the whole world looked to the *British Medical Journal* for guidance and leadership."

The tribute makes reference, also, to the fact that during the later period of his editorship, the British Medical Association planned and launched no less than eight new specialist medical journals, each with its own editor. "His experience must have been

an invaluable aid in the planning of these additions to medical literature. His advice must have been essential also to the successful planning of the two new abstracting journals which began publication by the British Medical Association this month under the general direction of the editor of the *British Medical Journal*. These new journals, namely, *Abstracts of World Medicine* and *Abstracts of World Surgery, Obstetrics and Gynaecology*, are modelled on the *Bulletin of War Medicine*, which under the able editorship of the director of the Bureau of Hygiene and Tropical Diseases, Dr. Charles Wilcocks, and the publications officer of the Medical Research Council, Dr. F. H. K. Green, gave, until its publication was discontinued in 1946, so remarkable an epitome of medical work during the War.

"It will be a satisfaction to Dr. Horner—and to everyone else—to know (concludes *Nature*) that the journal which he has so ably edited will now be in the hands of Dr. Hugh Clegg, who has been, since 1934, assistant editor. Dr. Clegg brings to his task a vigour of character, a broad outlook and an experience of medical journalism which make it certain that the great traditions of the *British Medical Journal* will be maintained. Everyone will wish him success in a work which may well have, during the period upon which we are now entering, a greater influence upon the health of the public and of the individual than medical journalism has ever had before."

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DRUG SUPPLIES AND COAL

"Pharmacists will wish to be assured that restrictions upon the delivery of coal to industrial enterprises will not endanger the output of essential drug supplies," observes the *Pharmaceutical Journal* in its issue of January 18th, and continues: "In some instances pharmaceutical manufacturers are known to be working on coal stocks which have been reduced to a dangerously low level. In a speech to his constituents at Seaham Harbour, the Minister of Fuel and Power, Mr. Shinwell, is reported to have said that certain industries including food-processing must enjoy priority in supplies of coal while there was not enough to go round. No mention of pharmaceutical manufacture was made in the report, but it is scarcely conceivable that full recognition will not be given to the claims of manufacturers of vital medical supplies."

[Announcement has since been made that "some chemical firms" are to have first call on the coal reserve pools held by regional fuel allocation committees.—Editor, *Vet. Rec.*]

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FIRST INTERNATIONAL CONGRESS OF PHYSIO-PATHOLOGY OF ANIMAL REPRODUCTION AND OF ARTIFICIAL INSEMINATION

The above Congress, to be held under the aegis of the University, will take place in Milan from April 9th to 15th, 1948.

The scientific work of the Congress has been divided into the following Sections: (1) General Biology; (2) Applied Genetics; (3) Morphology and Physiology of Reproduction; (4) Pathology of Reproduction; (5) Artificial Insemination; (6) Breeding and Feeding of Reproductive Animals; (7) Economic, Organizing and Legislative Problems.

These subjects, consideration of which is the main object of the Congress, are of the greatest interest to all countries of the world on account of the importance of modern studies of genetics and reproductive biology and the necessity of improving animal value with regard to quantity and quality.

The general Standing Committee is composed of the foremost biologists, geneticists, pathologists, human and veterinarian gynaecologists, zoologists and economists.

The following have been nominated as Presidents: Professor Angelo Cesare Bruni (Anatomist), Professor Luigi Leinati (Anatomist-Pathologist), Professor Silvio Ranzi (Geneticist), Professor Filippo Usuelli (Physiologist and Zoologist), Professor Gunn of the University of Sydney, Professor Hammond of the University of Cambridge, Professor Lagerlöf of the University of Stockholm and Dr. Tylor, of the Pasadena Institute, California.

Professor Telesforo Bonadonna, Director of "Istito L. Spallanzani," through the initiative of which institute the Congress is being promoted, has been nominated as General Secretary of the Congress.

The Secretary's office has been installed at the "Istituto L. Spallanzani" (Via Bronzetti 17, Milano, Italy, tel. 576527).

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Mr. John R. Harvey, General Secretary, Poultry Association of Great Britain, has protested on behalf of the Association to the Ministry of Agriculture on the discrimination stated to have been made against Poultry Advisory Officers in the Ministry's National Advisory Service. These officers, he claims, have been graded low in the Advisory Service, ranking below Horticultural Advisory Officers.

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STUDIES IN LOCUST MIGRATION

The first *Anti-Locust Memoir*, just published by the Anti-Locust Research Centre, presents results of a study based on 7,986 reports of the seasonal cycle of breeding and migrations of the desert locust in Eastern Africa, by Miss Z. Waloff, Scientific Officer of the Centre. Three main breeding seasons in one year are established, and it is found that they are closely correlated with the seasonal distribution of rainfall in the different areas of East Africa. Directions taken by swarms of each generation are analysed month by month and it is found that, on the whole, the major trends of migrations are with the prevailing winds, but there are important exceptions. Temperatures determine the activity of swarms, which become immobilized, *e.g.*, in Kenya Highlands, at temperatures below 20° C. to 22° C. Thus, the distribution of swarms at any season largely depends on the pattern of air temperatures and winds. Migrating swarms perform long voyages, but there is no indication that locusts are driven by an internal urge to fly in any definite direction, nor is there any evidence to support the old idea that migration involves a search for suitable breeding conditions. The author is very careful in drawing her conclusions, and they are all supported by a wealth of data which is critically discussed. The result is an outstanding contribution to the theory of locust migrations. On the practical side, the paper will be found invaluable by all interested in locusts in East Africa, since it provides clear and concise summaries, illustrated by maps, of what locusts may be expected to do in every part of the area during each month of the year. This provides an excellent basis for forecasting locust movements, so that timely preparations can be made to meet the danger.

Dr. B. P. Uvarov, Director of the Anti-Locust Research Centre, who has written the preface, states that further *Memoirs* are on the way dealing with other regions and with other African locust species. The appearance of this series of publications will interest the great numbers of people in Africa who have been, for years past, sending in their monthly locust reports and, possibly, wondering whether any use would be made of them. Their efforts have certainly not been wasted, since their co-operation made possible a series of investigations directed towards the eventual solution of the locust problem.—*Colonial Office News Service.*

DISEASES OF ANIMALS ACTS, 1894 TO 1937, AND AGRICULTURE ACT, 1937 (PART IV).

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Parasitic Mange*	Sheep Scab	Swine Fever
Dec. 16th to 31st, 1946 ...	4	13	—	2	2
Corresponding period in—					
1945 ...	4	2	—	3	22
1944 ...	8	6	—	12	53
1943 ...	8	9	—	33	23
Total Jan. 1st to Dec. 31st, 1946 ...	95	54	7	94	347
Corresponding period in—					
1945 ...	119	129	6	121	928
1944 ...	189	181	8	245	1,449
1943 ...	283	27	9	257	547

Note.—The figures for the current year are approximate only.
* Excluding outbreaks in Army Horses.

Tuberculosis (Attested Herds) Schemes

The number of Attested Herds, *i.e.*, herds officially certified as free from Tuberculosis as at December 31st, 1946, was as follows:—

England	Wales	Scotland	Total (Great Britain)
7,106	10,271	7,978	25,355